according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

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# SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Melamine

REACH Registration Number : 01-2119485947-16-0001, 01-2119485947-16-0002

Substance name : 1,3,5-Triazine-2,4,6-Triamine

CAS-No. : 108-78-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub- : Manufacture of resins, Fire retardant

stance/Mixture

Recommended restrictions

on use

: Food/ feedstuff additives

1.3 Details of the supplier of the safety data sheet

Supplier : LAT Nitrogen Linz GmbH

St.-Peter Strasse 25, A-4020 Linz, Austria

Telephone: +43 732 6914-0

E-mail address : sds@lat-nitrogen.com

1.4 Emergency telephone number

+44 (0) 1235 239 670 (NCEC Carechem 24)

#### **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Carcinogenicity, Category 2 H351: Suspected of causing cancer.

Reproductive toxicity, Category 2 H361f: Suspected of damaging fertility.

Specific target organ toxicity - repeated

exposure, Category 2, Urinary tract

H373: May cause damage to organs through pro-

longed or repeated exposure.

#### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Hazard pictograms :

Signal word : Warning

Hazard statements : H351 Suspected of causing cancer.

H361f Suspected of damaging fertility.

H373 May cause damage to organs (Urinary tract)

through prolonged or repeated exposure.

Precautionary statements : Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have

been read and understood.

P280 Wear protective gloves/ protective clothing/ eye

protection/ face protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

Storage:

P405 Store locked up.

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

# **SECTION 3: Composition/information on ingredients**

#### 3.1 Substances

Substance name : 1,3,5-Triazine-2,4,6-Triamine

CAS-No. : 108-78-1

#### Components

Chemical name	CAS-No.	Concentration (%	M-Factor, SCL, ATE
	EC-No.	w/w)	

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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1,3,5-triazine-2,4,6-triamine | 108-78-1 | >= 99,8 | |

# **SECTION 4: First aid measures**

4.1 Description of first aid measures

General advice : When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : Remove to fresh air immediately. Get medical attention imme-

diately.

In case of skin contact : Remove/ Take off immediately all contaminated clothing.

Wash off with soap and plenty of water.

In case of eye contact : Rinse thoroughly with plenty of water, also under the eyelids.

If easy to do, remove contact lens, if worn.

If swallowed : If swallowed, DO NOT induce vomiting.

Rinse mouth with water. Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Inhalation of dust may provoke the following symptoms:

Respiratory irritation

Cough

May irritate eyes.

Ingestion may affect the following organ(s):

Kidney Bladder

Risks : Suspected of causing cancer.

Suspected of damaging fertility.

May cause damage to organs through prolonged or repeated

exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

There is no specific antidote available.

# **SECTION 5: Firefighting measures**

5.1 Extinguishing media

Suitable extinguishing media : Water spray

Dry powder

Alcohol-resistant foam

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Hazardous decomposition products formed under fire condi-

tions.

Hydrogen cyanide (hydrocyanic acid)

Ammonia

Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment :

for firefighters

Wear self-contained breathing apparatus and protective suit.

Further information : Standard procedure for chemical fires.

In the event of fire, cool tanks with water spray.

Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

#### **SECTION 6: Accidental release measures**

# 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Avoid dust formation.

Avoid breathing dust.

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release

(dust).

Use personal protective equipment. In case of strong dust development: Dust impervious protective suit

6.2 Environmental precautions

Environmental precautions : Prevent product from entering environment and drains.

# 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, pick up with a vacuum cleaner or by wet-

brushing and transfer to a container for disposal according to

local regulations. Avoid dust formation.

Dispose of in accordance with local regulations.

#### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe dust.

Ensure adequate ventilation.

In case of dust development use dust mask.

Hazardous decomposition products will be formed at elevated

temperatures.

Advice on protection against :

fire and explosion

Product resists ignition and does not promote flame spread.

Hygiene measures : Remove contaminated clothing and protective equipment be-

fore entering eating areas. Wash hands before eating, drinking, or smoking. Handle in accordance with good industrial

hygiene and safety practice.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Keep in a dry, cool place. Store in a place accessible by au-

thorized persons only.

Advice on common storage : Keep away from food, drink and animal feedingstuffs.

Further information on stor-

age stability

Stable under normal conditions.

7.3 Specific end use(s)

Specific use(s) : Not applicable

#### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### **Occupational Exposure Limits**

# Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
1,3,5-triazine-2,4,6- triamine	Workers	Inhalation	Acute systemic effects	82,3 mg/m3
	Workers	Inhalation	Long-term systemic effects	8,3 mg/m3
	Workers	Skin contact	Acute systemic effects	117 mg/kg bw/d
	Workers	Skin contact	Long-term systemic effects	11,8 mg/kg bw/d
	Consumers	Skin contact	Long-term systemic effects	4,2 mg/kg bw/d
	Consumers	Inhalation	Long-term systemic	1,5 mg/m3

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		effects	
Consumers	Ingestion	Long-term systemic	0,42 mg/kg
		effects	bw/d

#### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
1,3,5-triazine-2,4,6-triamine	Fresh water	0,51 mg/l
	Marine water	0,051 mg/l
	Intermittent use/release	2 mg/l
	Fresh water sediment	13,06 mg/kg dry
		weight (d.w.)
	Marine sediment	1,306 mg/kg dry
		weight (d.w.)
	Sewage treatment plant	100 mg/l
	Soil	2,312 mg/kg dry
		weight (d.w.)

#### 8.2 Exposure controls

# **Engineering measures**

Avoid dust formation.

Provide adequate ventilation.

#### Personal protective equipment

Eye/face protection : Safety glasses

(EN 166)

Hand protection

Material : Nitrile rubber
Break through time : >= 480 min
Glove thickness : >= 0,11 mm

Guideline : Equipment should conform to EN 374

Remarks : For prolonged or repeated contact use protective gloves.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of

cuts, abrasion, and the contact time.

Skin and body protection : Wear suitable protective clothing.

In case of strong dust development: Dust impervious protective suit

Respiratory protection : Wear respiratory protection when its use is identified for cer-

tain contributing scenario.

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release

(dust).

Filter type : (FFP2, EN 149:2001)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Protective measures : Handle in accordance with good industrial hygiene and safety

practice.

Do not eat, drink or smoke when using this product.

Do not breathe dust.

Wash contaminated clothing before reuse.

# **SECTION 9: Physical and chemical properties**

9.1 Information on basic physical and chemical properties

Physical state : solid

Form : powder

Colour : white

Odour : odourless

Melting point : 361 °C

Boiling point : Decomposes below the boiling point.

Flammability : The product is not flammable.

Upper explosion limit / Upper

flammability limit

Not applicable

(solid)

Lower explosion limit / Lower

flammability limit

Not applicable

(solid)

Flash point : Not applicable

Auto-ignition temperature : Product resists ignition and does not promote flame spread.

Decomposition temperature : > 280 °C

pH : • 8,0 - 9,5

10% aqueous solution

Viscosity

Viscosity, kinematic : Not applicable

(solid)

Solubility(ies)

Water solubility : 3,2 g/l (20 °C)

slightly soluble

Solubility in other solvents : 0,3 g/l(30 °C)

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Solvent: Acetone

0,6 g/l(30 °C) Solvent: Ethanol

Partition coefficient: n-

octanol/water

log Pow: -1,22

Vapour pressure : Not applicable

(solid)

Density : 1,574 g/cm<sup>3</sup>

Bulk density : 650 - 800 kg/m<sup>3</sup>

Relative vapour density : Not applicable

(solid)

Particle characteristics

Particle size : < 90 µm

> 85 %

9.2 Other information

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Minimum ignition energy : > 1,4 kJ

Method: VDI 2263-1 not dust explosive

Molecular weight : 126,12 g/mol

# **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

Stable at normal ambient temperature and pressure.

#### 10.2 Chemical stability

Stable under normal conditions.

# 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

Heating can release hazardous gases.

10.4 Conditions to avoid

Conditions to avoid : None known.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 10.5 Incompatible materials

Materials to avoid : Strong acids and oxidizing agents

# 10.6 Hazardous decomposition products

Under fire conditions:

Ammonia

Nitrogen oxides (NOx)

Hydrogen cyanide (hydrocyanic acid)

# **SECTION 11: Toxicological information**

# 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### **Acute toxicity**

Based on available data, the classification criteria are not met.

**Product:** 

Acute oral toxicity : LD50 (Rat, male): 3.161 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.190 mg/m3

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2.000 mg/kg

# Skin corrosion/irritation

Based on available data, the classification criteria are not met.

**Product:** 

Species : Rabbit Exposure time : 72 h

Method : OECD Test Guideline 404

Result : No skin irritation

#### Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

**Product:** 

Species : Rabbit Exposure time : 72 h

Result : No eye irritation

#### Respiratory or skin sensitisation

#### Skin sensitisation

Based on available data, the classification criteria are not met.

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#### Respiratory sensitisation

Based on available data, the classification criteria are not met.

**Product:** 

Test Type : Maximisation Test

Species : Guinea pig

Method : OECD Test Guideline 406 Result : Not a skin sensitizer.

#### Germ cell mutagenicity

Based on available data, the classification criteria are not met.

**Product:** 

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells

Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro

Species: Mouse (male)

Strain: B6C3F1 Result: negative

#### Carcinogenicity

Suspected of causing cancer.

**Product:** 

Species : Rat, male Application Route : Oral

LOAEL : 126 mg/kg bw/day
Target Organs : Urinary bladder

Remarks : In animal studies carcinomas were observed at high doses in

the bladder of male rats, caused by the formation of bladder stones and their constant irritation, NOAEL = 126 mg/kg bw/d.

# Reproductive toxicity

Suspected of damaging fertility.

**Product:** 

Effects on foetal develop- : Species: Rat

ment

Teratogenicity: NOAEL: 400 mg/kg bw/day

Method: OECD Test Guideline 414 Result: No teratogenic effects

Species: Rabbit

Developmental Toxicity: NOAEL: 150 mg/kg bw/day

Method: OECD Test Guideline 414

Result: No adverse effects

# STOT - single exposure

Based on available data, the classification criteria are not met.

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#### STOT - repeated exposure

May cause damage to organs (Urinary tract) through prolonged or repeated exposure.

# Repeated dose toxicity

**Product:** 

Species : Rat, male and female NOAEL : 72 mg/kg bw/day

Application Route : Oral

Target Organs : Bladder, Kidney

Assessment : May cause damage to organs through prolonged or repeated

exposure.

#### **Aspiration toxicity**

Based on available data, the classification criteria are not met.

#### **Product:**

Not applicable

#### 11.2 Information on other hazards

# **Endocrine disrupting properties**

Based on available data, the classification criteria are not met.

**Product:** 

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

#### **SECTION 12: Ecological information**

#### 12.1 Toxicity

**Product:** 

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 3.000 mg/l

Exposure time: 96 h Test Type: Short term

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 200 mg/l

Exposure time: 48 h Test Type: Short term Remarks: Fresh water

Toxicity to algae/aquatic

plants

NOEC (Selenastrum capricornutum (fresh water algae)): 98

mg/l

End point: Growth inhibition Exposure time: 96 h Remarks: Fresh water

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Toxicity to fish (Chronic tox-

icity)

NOEC: 5,1 mg/l Exposure time: 36 d

Species: fathead minnow (Pimephales promelas)

Method: OECD Test Guideline 210

Remarks: Fresh water

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: > 11 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

Remarks: Fresh water

**Ecotoxicology Assessment** 

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

# 12.2 Persistence and degradability

**Product:** 

Biodegradability : Remarks: Not readily biodegradable.

Not inherently biodegradable.

#### 12.3 Bioaccumulative potential

**Product:** 

Bioaccumulation : Species: Fish

Bioconcentration factor (BCF): 3,8 Remarks: Bioaccumulation not expected.

#### 12.4 Mobility in soil

**Product:** 

Distribution among environ-

mental compartments

Medium: Soil log Koc: 2,3

Method: OECD Test Guideline 106

Medium: Water Remarks: 94%

Medium: Air Remarks: 6%

# 12.5 Results of PBT and vPvB assessment

**Product:** 

Assessment : This substance/mixture contains no components considered

to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

0.1% or higher.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 12.6 Endocrine disrupting properties

**Product:** 

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

#### 12.7 Other adverse effects

**Product:** 

Additional ecological infor-

mation

Do not allow product to reach ground water, water bodies or

sewage system.

Spillage of even small amounts can lead to pollution of drink-

ing water.

# **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

Product : Do not dispose of together with household waste.

Do not allow product to reach ground water, water bodies or

sewage system.

Contact the proper local authorities.

European waste code:

16 05 08\* (discarded organic chemicals consisting of or con-

taining dangerous substances)

Contaminated packaging : Empty remaining contents.

Dispose of in accordance with local regulations.

Waste Code : 15 01 10, packaging containing residues of or contaminated

by hazardous substances

#### **SECTION 14: Transport information**

#### 14.1 UN number or ID number

ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good

14.2 UN proper shipping name

ADR : Not regulated as a dangerous good

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RID : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADR : Not regulated as a dangerous good

RID : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

14.4 Packing group

ADR : Not regulated as a dangerous good

RID : Not regulated as a dangerous good

IMDG : Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : Not dangerous goods in the meaning of ADR/RID, ADN,

IMDG-Code, ICAO/IATA-DGR

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

#### **SECTION 15: Regulatory information**

# 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)  Conditions of restriction for the following entries should be considered: Number on list 75: If you intend to use this product as tattoo ink, please

contact your vendor.

1,3,5-triazine-2,4,6-triamine

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

Regulation (EU) No 2024/590 on substances that de-

plete the ozone layer

Not applicable

Regulation (EU) 2019/1021 on persistent organic pollu-

tants (recast)

Not applicable

REACH - List of substances subject to authorisation

(Annex XIV)

: Not applicable

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Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

#### **SECTION 16: Other information**

#### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

# **Further information**

Training advice : Provide adequate information, instruction and training for op-

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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erators.

Other information : Changes since the last version are highlighted in the margin.

This version replaces all previous versions.

Contact Point : LAT Nitrogen, Group Product Stewardship

Sources of key data used to

compile the Safety Data

Sheet

Chemical Safety Report, Melamine. Melamine REACH Con-

sortium, 2023

#### **Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. However we do not assume any warranty and liability whatsoever for the accuracy and completeness of such information.

We herewith also do not make any representation or warranty of merchantability of our products or their fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

The information contained herein relates exclusively to our products when not used in conjunction with any third party materials. No liability can be accepted especially in respect of the use of our products in conjunction with other material or substance.

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according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# **Annex: Exposure Scenarios**

# **Table of Contents**

Number	Title
ES1	Formulation or re-packing, Formulation & (re)packing of substances and mixtures; Adhesives, sealants (PC1); Coatings and paints, thinners, paint removers (PC9a); Laboratory chemicals (PC21); Leather treatment products (PC23); Polymer preparations and compounds (PC32); Washing and cleaning products (PC35)
ES2	Use at industrial sites, Use as monomer (intermediate) for melamine based resins production; Adhesives, sealants (PC1); Coatings and paints, thinners, paint removers (PC9a); Fillers, putties, plasters, modelling clay (PC9b); Finger paints (PC9c); Ink and toners (PC18); Laboratory chemicals (PC21); Leather treatment products (PC23); Polymer preparations and compounds (PC32); Washing and cleaning products (PC35); Cosmetics, personal care products (PC39); Agriculture, forestry, fishery (SU1); Mining, (without offshore industries) (SU2a); Manufacture of textiles, leather, fur (SU5); Manufacture of wood and wood products (SU6a); Manufacture of pulp, paper and paper products (SU6b); Manufacture of bulk, large scale chemicals (including petroleum products) (SU8); Manufacture of fine chemicals (SU9); Manufacture of rubber products (SU11); Manufacture of plastics products, including compounding and conversion (SU12); Manufacture of other non-metallic mineral products, e.g. plasters, cement (SU13); Manufacture of furniture (SU18); Building and construction work (SU19)
ES3	Use at industrial sites, Use as monomer (intermediate) in melamine based resins before curing; Polymer preparations and compounds (PC32)
ES4	Use at industrial sites, Use as intermediate for the production of other substances; Polymer preparations and compounds (PC32); Cosmetics, personal care products (PC39); Manufacture of bulk, large scale chemicals (including petroleum products) (SU8)
ES5	Use at industrial sites , Use as additive in foams; Laboratory chemicals (PC21); Polymer preparations and compounds (PC32); Manufacture of rubber products (SU11); Manufacture of plastics products, including compounding and conversion (SU12); Manufacture of furniture (SU18)
ES6	Use at industrial sites, Use as additive in intumescent coatings; Coatings and paints, thinners, paint removers (PC9a); Polymer preparations and compounds (PC32); Manufacture of plastics products, including compounding and conversion (SU12); General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment (SU17); Building and construction work (SU19)
ES7	Widespread use by professional workers, Use as additive in intumescent coatings; Coatings and paints, thinners, paint removers (PC9a); Laboratory chemicals (PC21); Polymer preparations and compounds (PC32); Manufacture of plastics products, including compounding and conversion (SU12); Building and construction work (SU19)
ES8	Service life - workers , PU foams - Workers (industrial); Vehicles covered by End of Life Vehicles (ELV) directive (AC1a); Plastic articles (AC13); Other plastic articles (AC13g)
ES9	Service life - workers , Intumescent coatings - Workers (industrial); Fabrics, textiles and apparel: Large surface area articles (AC5a); Metal articles: Large surface area articles (AC7a); Plastic articles (AC13)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **Melamine**

Version	Revision Date:	Date of last issue: 02.09.2025
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ES10	Service life - workers , Intumescent coatings - Professional Workers; Fabrics, textiles and apparel: Large surface area articles (AC5a); Metal articles: Large surface area articles (AC7a); Plastic articles (AC13)
ES11	Service life - consumers , PU foams - Consumers; Plastic articles (AC13)
ES12	Service life - consumers , Intumescent coatings - Consumers; Plastic articles (AC13)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

Version Revision Date: Date of last issue: 02.09.2025 8.0 09.10.2025 Date of first issue: 16.02.2018

# ES1: Formulation & (re)packing of substances and mixtures

# 1.1. Title section

Structured Short Title	: Formulation or re-packing, Formulation & (re)packing of substances and mixtures; Adhesives, sealants (PC1).; Coatings and paints, thinners, paint removers (PC9a).; Laboratory chemicals (PC21).; Leather treatment products (PC23).; Polymer preparations and compounds (PC32).; Washing and cleaning products (PC35).
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CS2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  CS3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  CS4 Chemical production where opportunity for exposure arises PROC4  CS5 Mixing or blending in batch processes (solid) PROC5  CS6 Transfer of substance or mixture (charging/discharging) at non dedicated facilities (solid)  CS7 Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)  CS8 Transfer of substance or mixture into small containers (dedicated filling PROC9 line, including weighing)  CS9 Tabletting, compression, extrusion, pelettisation, granulation PROC14  CS10 Use as laboratory reagent (solid) PROC15  CS11 Manual activities involving hand contact (solid) PROC28  CS12 Manual maintenance (cleaning and repair) of machinery (solid) PROC28  CS13 Mixing or blending in batch processes (liquid) PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated PROC8b facilities (liquid)					
CS2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  CS4 Chemical production where opportunity for exposure arises  PROC4  CS5 Mixing or blending in batch processes (solid)  PROC5  CS6 Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid)  CS7 Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)  CS8 Transfer of substance or mixture into small containers (dedicated filling PROC9 line, including weighing)  CS9 Tabletting, compression, extrusion, pelettisation, granulation  PROC14  CS10 Use as laboratory reagent (solid)  CS11 Manual activities involving hand contact (solid)  PROC28  CS12 Manual maintenance (cleaning and repair) of machinery (solid)  PROC28  CS13 Mixing or blending in batch processes (liquid)  PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated PROC8b  facilities (liquid)	Environr	Environment			
CS2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  CS4 Chemical production where opportunity for exposure arises  PROC4  CS5 Mixing or blending in batch processes (solid)  PROC5  CS6 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (solid)  CS7 Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)  CS8 Transfer of substance or mixture into small containers (dedicated filling PROC9 line, including weighing)  CS9 Tabletting, compression, extrusion, pelettisation, granulation  PROC14  CS10 Use as laboratory reagent (solid)  PROC15  CS11 Manual activities involving hand contact (solid)  PROC28  CS13 Mixing or blending in batch processes (liquid)  PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated PROC8b facilities (liquid)	CS1	Formulation & (re)packing of substances and mixtures	ERC2		
casional controlled exposure or processes with equivalent containment conditions  CS3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  CS4 Chemical production where opportunity for exposure arises  PROC4  CS5 Mixing or blending in batch processes (solid)  PROC5  CS6 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (solid)  CS7 Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)  CS8 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  CS9 Tabletting, compression, extrusion, pelettisation, granulation  PROC14  CS10 Use as laboratory reagent (solid)  PROC15  CS11 Manual activities involving hand contact (solid)  PROC19  CS12 Manual maintenance (cleaning and repair) of machinery (solid)  PROC28  CS13 Mixing or blending in batch processes (liquid)  PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated PROC8b facilities (liquid)	Worker				
processes with occasional controlled exposure or processes with equivalent containment condition  CS4 Chemical production where opportunity for exposure arises  PROC4  CS5 Mixing or blending in batch processes (solid)  CS6 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (solid)  CS7 Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)  CS8 Transfer of substance or mixture into small containers (dedicated filling PROC9 line, including weighing)  CS9 Tabletting, compression, extrusion, pelettisation, granulation  PROC14  CS10 Use as laboratory reagent (solid)  CS11 Manual activities involving hand contact (solid)  CS12 Manual maintenance (cleaning and repair) of machinery (solid)  PROC28  CS13 Mixing or blending in batch processes (liquid)  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated PROC8b facilities (liquid)	CS2	casional controlled exposure or processes with equivalent containment	PROC2		
CS5 Mixing or blending in batch processes (solid)  CS6 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (solid)  CS7 Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)  CS8 Transfer of substance or mixture into small containers (dedicated filling PROC9 line, including weighing)  CS9 Tabletting, compression, extrusion, pelettisation, granulation  CS10 Use as laboratory reagent (solid)  CS11 Manual activities involving hand contact (solid)  CS12 Manual maintenance (cleaning and repair) of machinery (solid)  CS13 Mixing or blending in batch processes (liquid)  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	CS3	processes with occasional controlled exposure or processes with	PROC3		
Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (solid)  Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)  Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  Tabletting, compression, extrusion, pelettisation, granulation  PROC14  CS10 Use as laboratory reagent (solid)  PROC15  CS11 Manual activities involving hand contact (solid)  PROC19  CS12 Manual maintenance (cleaning and repair) of machinery (solid)  PROC28  CS13 Mixing or blending in batch processes (liquid)  PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	CS4	Chemical production where opportunity for exposure arises	PROC4		
ed-facilities (solid)  CS7 Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)  CS8 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  CS9 Tabletting, compression, extrusion, pelettisation, granulation PROC14  CS10 Use as laboratory reagent (solid) PROC15  CS11 Manual activities involving hand contact (solid) PROC19  CS12 Manual maintenance (cleaning and repair) of machinery (solid) PROC28  CS13 Mixing or blending in batch processes (liquid) PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	CS5	Mixing or blending in batch processes (solid)	PROC5		
facilities (solid)  CS8 Transfer of substance or mixture into small containers (dedicated filling PROC9 line, including weighing)  CS9 Tabletting, compression, extrusion, pelettisation, granulation PROC14  CS10 Use as laboratory reagent (solid) PROC15  CS11 Manual activities involving hand contact (solid) PROC19  CS12 Manual maintenance (cleaning and repair) of machinery (solid) PROC28  CS13 Mixing or blending in batch processes (liquid) PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	CS6	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	PROC8a		
Iine, including weighing)  CS9 Tabletting, compression, extrusion, pelettisation, granulation PROC14  CS10 Use as laboratory reagent (solid) PROC15  CS11 Manual activities involving hand contact (solid) PROC19  CS12 Manual maintenance (cleaning and repair) of machinery (solid) PROC28  CS13 Mixing or blending in batch processes (liquid) PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	CS7		PROC8b		
CS10 Use as laboratory reagent (solid)  CS11 Manual activities involving hand contact (solid)  CS12 Manual maintenance (cleaning and repair) of machinery (solid)  CS13 Mixing or blending in batch processes (liquid)  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated-ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)  CS16 PROC86	CS8		PROC9		
CS11 Manual activities involving hand contact (solid)  CS12 Manual maintenance (cleaning and repair) of machinery (solid)  PROC28  CS13 Mixing or blending in batch processes (liquid)  PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	CS9	Tabletting, compression, extrusion, pelettisation, granulation	PROC14		
CS12 Manual maintenance (cleaning and repair) of machinery (solid)  PROC28  CS13 Mixing or blending in batch processes (liquid)  PROC5  CS14 Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	CS10	Use as laboratory reagent (solid)	PROC15		
CS13 Mixing or blending in batch processes (liquid)  PROC5  Transfer of substance or mixture (charging/discharging) at non dedicated ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)  PROC86	CS11	Manual activities involving hand contact (solid)	PROC19		
CS14 Transfer of substance or mixture (charging/discharging) at non dedicat-PROC8a ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated PROC8b facilities (liquid)	CS12	Manual maintenance (cleaning and repair) of machinery (solid)	PROC28		
ed-facilities (liquid)  CS15 Transfer of substance or mixture (charging/discharging) at dedicated PROC8b facilities (liquid)	CS13	Mixing or blending in batch processes (liquid)	PROC5		
facilities (liquid)	CS14		PROC8a		
CS16 Use as laboratory reagent (liquid) PROC15	CS15		PROC8b		
	CS16	Use as laboratory reagent (liquid)	PROC15		

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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CS17	Manual activities involving hand contact (liquid)	PROC19
CS18	Manual maintenance (cleaning and repair) of machinery (liquid)	PROC28

# 1.2. Conditions of use affecting exposure

# 1.2.1. Control of environmental exposure: Formulation into mixture (ERC2)

# Conditions and measures related to sewage treatment plant

STP type : Municipal Sewage Treatment Plant

Additional information on STP : Biological elimination

STP sludge treatment : Controlled application of sewage sludge to agricultural soil

STP effluent : 2.000 m<sup>3</sup>/d

#### Other conditions affecting environmental exposure

Receiving surface water flow : 18.000 m<sup>3</sup>/d

Local freshwater dilution factor : 10

# 1.2.2. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

# Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

# Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

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Ensure daily cleaning of the equipment.

# 1.2.3. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

# Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.4. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

# Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

Version Revision Date:

8.0 Date of last issue: 02.09.2025
Date of first issue: 16.02.2018

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.5. Control of worker exposure: Mixing or blending in batch processes (solid) (PROC5)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

# Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.6. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid) (PROC8a)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

Version Revision Date:

8.0 Date of last issue: 02.09.2025
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# Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.7. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid) (PROC8b)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

# Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

Version Revision Date:

8.0 Date of last issue: 02.09.2025
Date of first issue: 16.02.2018

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.8. Control of worker exposure:Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

# Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.9. Control of worker exposure: Tabletting, compression, extrusion, pelettisation, granulation (PROC14)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

# Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.10. Control of worker exposure: Use as laboratory reagent (solid) (PROC15)

# **Product (article) characteristics**

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### 1.2.11. Control of worker exposure: Manual activities involving hand contact (solid) (PROC19)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers exposure up to 4 hrs

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 95 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.12. Control of worker exposure:Manual maintenance (cleaning and repair) of machinery (solid) (PROC28)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, high dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

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Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 1.2.13. Control of worker exposure: Mixing or blending in batch processes (liquid) (PROC5)

# Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

# Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.14. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid) (PROC8a)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

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Date of first issue: 16.02.2018

Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.15. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid) (PROC8b)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

# Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

Version Revision Date:

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Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 1.2.16. Control of worker exposure: Use as laboratory reagent (liquid) (PROC15)

# **Product (article) characteristics**

Covers concentrations up to 30 %

Physical form of product : Liquid

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

# 1.2.17. Control of worker exposure: Manual activities involving hand contact (liquid) (PROC19)

# Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 95 %

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 1.2.18. Control of worker exposure:Manual maintenance (cleaning and repair) of machinery (liquid) (PROC28)

# **Product (article) characteristics**

Covers concentrations up to 30 %

Physical form of product : Liquid

# Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

# Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 1.3. Exposure estimation and reference to its source

#### 1.3.1. Environmental release and exposure: Formulation into mixture (ERC2)

Release route	Release rate	Release estimation method
Water	5 kg/day	Estimated release factor
Air	1 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,244 mg/L (EUSES)	0,478
Freshwater sediment	6,242 mg/kg dry weight (EUSES)	0,478
Marine water	0,024 mg/L (EUSES)	0,478
Marine sediment	0,624 mg/kg dry weight (EUSES)	0,478
Sewage treatment plant	2,433 mg/L (EUSES)	0,024
Agricultural soil	1,727 mg/kg dry weight (EUSES)	0,747
Man via environment - Inhalation	0,000228 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,023 mg/kg bw/day (EUSES)	0,054
combined routes		0,054

# 1.3.2. Worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,5 mg/m³ (ECETOC TRA worker v3)	0,06	
inhalative	systemic	short-term	2 mg/m³ (ECETOC TRA worker v3)	0,024	
dermal	systemic	long-term	1,37 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,176	

# 1.3.3. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

posure route Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
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according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	0,69 mg/kg bw/day (ECETOC TRA worker v3)	0,058	
combined routes	systemic	long-term		0,179	

# 1.3.4. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,719	

# 1.3.5. Worker exposure: Mixing or blending in batch processes (solid) (PROC5)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 1.3.6. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid) (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	

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inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 1.3.7. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid) (PROC8b)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,353	

# 1.3.8. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,719	

# 1.3.9. Worker exposure: Tabletting, compression, extrusion, pelettisation, granulation (PROC14)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	

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dermal	systemic		3,43 mg/kg bw/day (ECETOC TRA worker v3)	0,291	
combined routes	systemic	long-term		0,411	

# 1.3.10. Worker exposure: Use as laboratory reagent (solid) (PROC15)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,5 mg/m³ (ECETOC TRA worker v3)	0,06	
inhalative	systemic	short-term	2 mg/m³ (ECETOC TRA worker v3)	0,024	
dermal	systemic	long-term	0,34 mg/kg bw/day (ECETOC TRA worker v3)	0,029	
combined routes	systemic	long-term		0,089	

# 1.3.11. Worker exposure: Manual activities involving hand contact (solid) (PROC19)

Exposure route	Health effect	Exposure indicator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	3 mg/m³ (ECETOC TRA worker v3)	0,361	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	7,072 mg/kg bw/day (ECETOC TRA worker v3)	0,599	
combined routes	systemic	long-term		0,961	

# 1.3.12. Worker exposure: Manual maintenance (cleaning and repair) of machinery (solid) (PROC28)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC	0,232	

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			TRA worker v3)		
combined routes	systemic	long-term		0,835	

# 1.3.13. Worker exposure: Mixing or blending in batch processes (liquid) (PROC5)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	> 0,01	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

# 1.3.14. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid) (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	> 0,01	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

# 1.3.15. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid) (PROC8b)

Exposure route	Health effect	Exposure indicator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	> 0,01	

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dermal	systemic		2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

# 1.3.16. Worker exposure: Use as laboratory reagent (liquid) (PROC15)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	> 0,01	
dermal	systemic	long-term	0,34 mg/kg bw/day (ECETOC TRA worker v3)	0,029	
combined routes	systemic	long-term		0,092	

# 1.3.17. Worker exposure: Manual activities involving hand contact (liquid) (PROC19)

Exposure route	Health effect	Exposure indicator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1,74 mg/m³ (Stoffenmanager v4.0)	0,21	
inhalative	systemic	short-term	1,74 mg/m³ (Stoffenmanager v4.0)	0,021	
dermal	systemic	long-term	7,072 mg/kg bw/day (ECETOC TRA worker v3)	0,599	
combined routes	systemic	long-term		0,809	

# 1.3.18. Worker exposure: Manual maintenance (cleaning and repair) of machinery (liquid) (PROC28)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	> 0,01	
dermal	systemic	long-term	2,742 mg/kg	0,232	

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			bw/day (ECETOC TRA worker v3)		
combined routes	systemic	long-term		0,296	

# 1.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

Additional information available from:

https://lat-web-prod-storage-

cdn.azureedge.net/nitrogenblob/storage/local/unMlcCNEco1jAEuzdf0ibZWRKBU7y19BBhYUxt7f.pdf

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ES2: Use as monomer (intermediate) for melamine based resins production

# 2.1. Title section

Structured Short Title :	Lies at industrial sites. Lies as manamar (intermediate) for mal
Structured Short Title .	Use at industrial sites, Use as monomer (intermediate) for melamine based resins production; Adhesives, sealants (PC1).;
	Coatings and paints, thinners, paint removers (PC9a).; Fillers,
	putties, plasters, modelling clay (PC9b).; Finger paints (PC9c).;
	Ink and toners (PC18).; Laboratory chemicals (PC21).; Leather
	treatment products (PC23).; Polymer preparations and com-
	pounds (PC32).; Washing and cleaning products (PC35).; Cos-
	metics, personal care products (PC39).; Agriculture, forestry,
	fishery (SU1).; Mining, (without offshore industries) (SU2a).;
	Manufacture of textiles, leather, fur (SU5).; Manufacture of wood
	and wood products (SU6a).; Manufacture of pulp, paper and
	paper products (SU6b).; Manufacture of bulk, large scale chem-
	icals (including petroleum products) (SU8).; Manufacture of fine
	chemicals (SU9).; Manufacture of rubber products (SU11).;
	Manufacture of plastics products, including compounding and
	conversion (SU12).; Manufacture of other non-metallic mineral
	products, e.g. plasters, cement (SU13).; Manufacture of furni-
	ture (SU18).; Building and construction work (SU19).
	13.5 (55.5)., 2 3.3.1.g 3.1.2 55.1.51 dollor: Work (55.16).

Environr	ment	
CS1	Use as monomer (intermediate) for melamine based resins production	ERC6a, ERC6c
Worker		
CS2	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions	PROC1
CS3	Chemical production or refinery in closed continuous process with oc- casional controlled exposure or processes with equivalent containment conditions	PROC2
CS4	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition	PROC3
CS5	Chemical production where opportunity for exposure arises	PROC4
CS6	Mixing or blending in batch processes	PROC5
CS7	Calendering operations	PROC6
CS8	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid)	PROC8a
CS9	Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)	PROC8b

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CS10	Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (solid)	PROC9
CS11	Tabletting, compression, extrusion, pelettisation, granulation	PROC14
CS12	Use as laboratory reagent	PROC15
CS13	Manual maintenance (cleaning and repair) of machinery	PROC28
CS14	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid)	PROC8a
CS15	Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	PROC8b
CS16	Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (liquid)	PROC9

# 2.2. Conditions of use affecting exposure

# 2.2.1. Control of environmental exposure: Use of intermediate (ERC6a) / Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article) (ERC6c)

Conditions and measures related to sewage treatment plant					
STP type	: Municipal Sewage Treatment Plant				
Additional information on STP	: Biological elimination				
STP sludge treatment	: Controlled application of sewage sludge to agricultural soil				
STP effluent	: 2.000 m³/d				
Other conditions affecting enviro	Other conditions affecting environmental exposure				
Receiving surface water flow	: 18.000 m³/d				
Local freshwater dilution factor	: 10				

# 2.2.2. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics	
Covers percentage substance in the production	duct up to 100 %.
Physical form of product :	Solid, medium dustiness
Amount used, frequency and duration	of use (or from service life)
Duration :	Covers daily exposures up to 8 hours

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.3. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

#### **Product (article) characteristics**

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.4. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.5. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

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Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 2.2.6. Control of worker exposure: Mixing or blending in batch processes (PROC5)

### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 2.2.7. Control of worker exposure: Calendering operations (PROC6)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 90 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.8. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid) (PROC8a)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Ensure daily cleaning of the equipment.

# 2.2.9. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid) (PROC8b)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.10. Control of worker exposure:Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (solid) (PROC9)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.11. Control of worker exposure: Tabletting, compression, extrusion, pelettisation, granulation (PROC14)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 2.2.12. Control of worker exposure: Use as laboratory reagent (PROC15)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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**Product (article) characteristics** 

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.13. Control of worker exposure:Manual maintenance (cleaning and repair) of machinery (PROC28)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

# Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.14. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid) (PROC8a)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.15. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid) (PROC8b)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 2.2.16. Control of worker exposure:Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (liquid) (PROC9)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 2.3. Exposure estimation and reference to its source

# 2.3.1. Environmental release and exposure: Use of intermediate (ERC6a) / Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article) (ERC6c)

Release route	Release rate Release estimation method	
Water	3 kg/day	Estimated release factor
Air	0,5 kg/day	Estimated release factor

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Soil	0 kg/day	Estimated release factor
	3 ,	

Compartment	Exposure level	RCR
Freshwater	0,147 mg/L (EUSES)	0,287
Freshwater sediment	3,751 mg/kg dry weight (EUSES)	0,287
Marine water	0,015 mg/L (EUSES)	0,287
Marine sediment	0,375 mg/kg dry weight (EUSES)	0,287
Sewage treatment plant	1,46 mg/L (EUSES)	0,015
Agricultural soil	1,032 mg/kg dry weight (EUSES)	0,446
Man via environment - Inhalation	0,000114 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,013 mg/kg bw/day (EUSES)	0,031
combined routes		0,031

# 2.3.2. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,01 mg/m³ (ECETOC TRA worker v3)	< 0,01	
inhalative	systemic	short-term	0,04 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	0,034 mg/kg bw/day (ECETOC TRA worker v3)	< 0,01	
combined routes	systemic	long-term		< 0,01	

# 2.3.3. Worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,5 mg/m³ (ECETOC TRA worker v3)	0,06	
inhalative	systemic	short-term	2 mg/m³ (ECETOC TRA worker v3)	0,024	
dermal	systemic	long-term	1,37 mg/kg bw/day (ECETOC TRA worker v3)	0,116	

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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combined routes	systemic	long-term	0,176	

# 2.3.4. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	0,69 mg/kg bw/day (ECETOC TRA worker v3)	0,058	
combined routes	systemic	long-term		0,179	

# 2.3.5. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,719	

#### 2.3.6. Worker exposure: Mixing or blending in batch processes (PROC5)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

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#### 2.3.7. Worker exposure: Calendering operations (PROC6)

Exposure route	Health effect	Exposure indicator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 2.3.8. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid) (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 2.3.9. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid) (PROC8b)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,353	

# 2.3.10. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (solid) (PROC9)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,719	

# 2.3.11. Worker exposure: Tabletting, compression, extrusion, pelettisation, granulation (PROC14)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	3,43 mg/kg bw/day (ECETOC TRA worker v3)	0,291	
combined routes	systemic	long-term		0,411	

# 2.3.12. Worker exposure: Use as laboratory reagent (PROC15)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,5 mg/m³ (ECETOC TRA worker v3)	0,06	
inhalative	systemic	short-term	2 mg/m³ (ECETOC TRA worker v3)	0,024	
dermal	systemic	long-term	0,34 mg/kg bw/day (ECETOC TRA worker v3)	0,029	
combined routes	systemic	long-term		0,089	

#### 2.3.13. Worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC28)

Exposure route	Health effect	Exposure indi-	Exposure level	RCR	Remarks
		cator			

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inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 2.3.14. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid) (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,315 mg/m³ (ECETOC TRA worker v3)	0,038	
inhalative	systemic	short-term	0,315 mg/m³ (ECETOC TRA worker v3)	> 0,01	
dermal	systemic	long-term	8,226 mg/kg bw/day (ECETOC TRA worker v3)	0,697	
combined routes	systemic	long-term		0,735	

# 2.3.15. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid) (PROC8b)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,315 mg/m³ (ECETOC TRA worker v3)	0,038	
inhalative	systemic	short-term	0,315 mg/m³ (ECETOC TRA worker v3)	> 0,01	
dermal	systemic	long-term	8,226 mg/kg bw/day (ECETOC TRA worker v3)	0,697	
combined routes	systemic	long-term		0,735	

# 2.3.16. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (liquid) (PROC9)

Exposure route	Health effect	Exposure indi-	Exposure level	RCR	Remarks
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		cator			
inhalative	systemic	long-term	0,315 mg/m³ (ECETOC TRA worker v3)	0,038	
inhalative	systemic	short-term	0,315 mg/m³ (ECETOC TRA worker v3)	> 0,01	
dermal	systemic	long-term	4,114 mg/kg bw/day (ECETOC TRA worker v3)	0,349	
combined routes	systemic	long-term		0,387	

### 2.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

Additional information available from:

https://lat-web-prod-storage-

cdn. azure edge. net/nitrogen blob/storage/local/un MlcCNE co1jAEuzdf0 ib ZWRKBU7y19BBhYUxt7f.pdf

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# Melamine

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# ES3: Use as monomer (intermediate) in melamine based resins before curing

#### 3.1. Title section

Structured Short Title	: Use at industrial sites, Use as monomer (intermediate) in mela-
	mine based resins before curing; Polymer preparations and
	compounds (PC32).

Environn	nent	
CS1	Use as monomer (intermediate) in melamine based resins before curing	ERC6c
Worker		
CS2	Calendering operations	PROC6
CS3	Industrial spraying	PROC7
CS4	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid)	PROC8a
CS5	Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	PROC8b
CS6	Roller application or brushing	PROC10
CS7	Manual activities involving hand contact	PROC19
CS8	Manual maintenance (cleaning and repair) of machinery	PROC28
CS9	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid)	PROC8a
CS10	Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)	PROC8b

# 3.2. Conditions of use affecting exposure

# 3.2.1. Control of environmental exposure: Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article) (ERC6c)

Conditions and measures related to sewage treatment plant						
STP type	: Municipal Sewage Treatment Plant					
Additional information on STP	: Biological elimination					
STP sludge treatment	: Controlled application of sewage sludge to agricultural soil					
STP effluent	: 2.000 m³/d					

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Other conditions affecting environmental exposure

Receiving surface water flow : 18.000 m<sup>3</sup>/d

Local freshwater dilution factor : 10

### 3.2.2. Control of worker exposure:Calendering operations (PROC6)

# Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 3.2.3. Control of worker exposure:Industrial spraying (PROC7)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Liquid

# Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 3.2.4. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid) (PROC8a)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Liquid

### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 3.2.5. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid) (PROC8b)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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**Product (article) characteristics** 

Covers concentrations up to 10 %

Physical form of product : Liquid

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 120 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 3.2.6. Control of worker exposure:Roller application or brushing (PROC10)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Liquid

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

# Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

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Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 3.2.7. Control of worker exposure: Manual activities involving hand contact (PROC19)

# Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 90 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 3.2.8. Control of worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC28)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

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Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 3.2.9. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid) (PROC8a)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

# Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 3.2.10. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid) (PROC8b)

Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 3.3. Exposure estimation and reference to its source

# 3.3.1. Environmental release and exposure: Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article) (ERC6c)

Release route	Release rate	Release estimation method
Water	0,5 kg/day	Estimated release factor
Air	0 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,025 mg/L (EUSES)	0,049
Freshwater sediment	0,638 mg/kg dry weight (EUSES)	0,049
Marine water	0,0025 mg/L (EUSES)	0,049
Marine sediment	0,064 mg/kg dry weight (EUSES)	0,049
Sewage treatment plant	0,243 mg/L (EUSES)	< 0,01
Agricultural soil	0,169 mg/kg dry weight (EUSES)	0,073

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Man via environment - Inhalation	0 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,0016 mg/kg bw/day (EUSES)	< 0,01
combined routes		< 0,01

# 3.3.2. Worker exposure: Calendering operations (PROC6)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,315 mg/m³ (ECETOC TRA worker v3)	0,038	
inhalative	systemic	short-term	0,315 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	3,291 mg/kg bw/day (ECETOC TRA worker v3)	0,279	
combined routes	systemic	long-term		0,317	

# 3.3.3. Worker exposure: Industrial spraying (PROC7)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	3,85 mg/m³ (Stof- fenmanager v5.6.10)	0,464	
inhalative	systemic	short-term	3,85 mg/m³ (Stof- fenmanager v5.6.10)	0,047	
dermal	systemic	long-term	5,143 mg/kg bw/day (ECETOC TRA worker v3)	0,436	
combined routes	systemic	long-term		0,9	

# 3.3.4. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid) (PROC8a)

Exposure route	Health effect	Exposure indicator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,315 mg/m³ (ECETOC TRA worker v3)	0,038	
inhalative	systemic	short-term	0,315 mg/m³ (ECETOC TRA worker v3)	< 0,01	

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dermal	systemic	, o	8,226 mg/kg bw/day (ECETOC TRA worker v3)	0,697	
combined routes	systemic	long-term		0,735	

# 3.3.5. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid) (PROC8b)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,38 mg/m³ (Stof- fenmanager v5.6.10)	0,046	
inhalative	systemic	short-term	0,38 mg/m³ (Stof- fenmanager v5.6.10)	< 0,01	
dermal	systemic	long-term	8,226 mg/kg bw/day (ECETOC TRA worker v3)	0,697	
combined routes	systemic	long-term		0,743	

#### 3.3.6. Worker exposure: Roller application or brushing (PROC10)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1,74 mg/m³ (Stof- fenmanager v5.6.10)	0,21	
inhalative	systemic	short-term	1,74 mg/m³ (Stof- fenmanager v5.6.10)	0,021	
dermal	systemic	long-term	3,29 mg/kg bw/day (ECETOC TRA worker v3)	0,279	
combined routes	systemic	long-term		0,488	

#### 3.3.7. Worker exposure: Manual activities involving hand contact (PROC19)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,84 mg/m³ (Stoffenmanager v5.6.10)	0,101	
inhalative	systemic	short-term	0,84 mg/m³ (Stoffenmanager v5.6.10)	0,01	

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dermal	systemic	, o	8,486 mg/kg bw/day (ECETOC TRA worker v3)	0,719	
combined routes	systemic	long-term		0,82	

#### 3.3.8. Worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC28)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,315 mg/m³ (ECETOC TRA worker v3)	0,038	
inhalative	systemic	short-term	0,315 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	8,226 mg/kg bw/day (ECETOC TRA worker v3)	0,697	
combined routes	systemic	long-term		0,735	

# 3.3.9. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid) (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	3 mg/m³ (ECETOC TRA worker v3)	0,361	
inhalative	systemic	short-term	12 mg/m³ (ECETOC TRA worker v3)	0,146	
dermal	systemic	long-term	1,645 mg/kg bw/day (ECETOC TRA worker v3)	0,139	
combined routes	systemic	long-term		0,501	

# 3.3.10. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid) (PROC8b)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,6 mg/m³ (ECETOC TRA worker v3)	0,072	
inhalative	systemic	short-term	2,4 mg/m³ (ECETOC TRA worker v3)	0,029	

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dermal	systemic		8,226 mg/kg bw/day (ECETOC TRA worker v3)	0,607	
combined routes	systemic	long-term		0,769	

# 3.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

Additional information available from:

https://lat-web-prod-storage-

cdn.azureedge.net/nitrogenblob/storage/local/unMlcCNEco1jAEuzdf0ibZWRKBU7y19BBhYUxt7f.pdf

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# ES4: Use as intermediate for the production of other substances

#### 4.1. Title section

ture of bulk, large scale chemicals (including petroleum products) (SU8).
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Environn	nent	
CS1	Use as intermediate for the production of other substances	ERC6a
Worker		
CS2	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions	PROC1
CS3	Chemical production or refinery in closed continuous process with oc- casional controlled exposure or processes with equivalent containment conditions	PROC2
CS4	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition	PROC3
CS5	Chemical production where opportunity for exposure arises	PROC4
CS6	Mixing or blending in batch processes	PROC5
CS7	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities	PROC8a
CS8	Transfer of substance or mixture (charging/discharging) at dedicated facilities	PROC8b
CS9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)	PROC9
CS10	Use as laboratory reagent	PROC15
CS11	Manual maintenance (cleaning and repair) of machinery	PROC28

# 4.2. Conditions of use affecting exposure

#### 4.2.1. Control of environmental exposure: Use of intermediate (ERC6a)

Conditions and measures related to sewage treatment plant

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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STP type : Municipal Sewage Treatment Plant

Additional information on STP : Biological elimination

STP sludge treatment : Controlled application of sewage sludge to agricultural soil

STP effluent : 2.000 m<sup>3</sup>/d

Other conditions affecting environmental exposure

Receiving surface water flow : 18.000 m<sup>3</sup>/d

Local freshwater dilution factor : 10

# 4.2.2. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

### **Product (article) characteristics**

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 4.2.3. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

# Amount used, frequency and duration of use (or from service life)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 4.2.4. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 4.2.5. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

#### Product (article) characteristics

Covers concentrations up to 10 %

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 4.2.6. Control of worker exposure: Mixing or blending in batch processes (PROC5)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

# Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

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Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 4.2.7. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 4.2.8. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

#### Product (article) characteristics

Covers concentrations up to 10 %

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 4.2.9. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

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Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 4.2.10. Control of worker exposure: Use as laboratory reagent (PROC15)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 4.2.11. Control of worker exposure:Manual maintenance (cleaning and repair) of machinery (PROC28)

#### Product (article) characteristics

Covers concentrations up to 10 %

Physical form of product : Solid, medium dustiness

### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Conditions and measures related to personal protection, hygiene and health evaluation

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Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

### 4.3. Exposure estimation and reference to its source

#### 4.3.1. Environmental release and exposure: Use of intermediate (ERC6a)

Release route	Release rate	Release estimation method
Water	3 kg/day	Estimated release factor
Air	0,5 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,147 mg/L (EUSES)	0,287
Freshwater sediment	3,751 mg/kg dry weight (EUSES)	0,287
Marine water	0,015 mg/L (EUSES)	0,287
Marine sediment	0,375 mg/kg dry weight (EUSES)	0,287
Sewage treatment plant	1,46 mg/L (EUSES)	0,015
Agricultural soil	1,011 mg/kg dry weight (EUSES)	0,437
Man via environment - Inhalation	0,0000114 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,00921 mg/kg bw/day (EUSES)	0,022
combined routes		0,022

# 4.3.2. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,01 mg/m³ (ECETOC TRA worker v3)	< 0,01	
inhalative	systemic	short-term	0,04 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	0,034 mg/kg bw/day (ECETOC TRA worker v3)	< 0,01	
combined routes	systemic	long-term		< 0,01	

# 4.3.3. Worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,5 mg/m³ (ECETOC TRA worker v3)	0,06	
inhalative	systemic	short-term	2 mg/m³ (ECETOC TRA worker v3)	0,024	
dermal	systemic	long-term	1,37 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,176	

# 4.3.4. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	0,69 mg/kg bw/day (ECETOC TRA worker v3)	0,058	
combined routes	systemic	long-term		0,179	

### 4.3.5. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,719	

# 4.3.6. Worker exposure: Mixing or blending in batch processes (PROC5)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 4.3.7. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 4.3.8. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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		cator		
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232
combined routes	systemic	long-term		0,353

# 4.3.9. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,719	

# 4.3.10. Worker exposure: Use as laboratory reagent (PROC15)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,5 mg/m³ (ECETOC TRA worker v3)	0,06	
inhalative	systemic	short-term	2 mg/m³ (ECETOC TRA worker v3)	0,024	
dermal	systemic	long-term	0,34 mg/kg bw/day (ECETOC TRA worker v3)	0,029	
combined routes	systemic	long-term		0,089	

# 4.3.11. Worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC28)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC	0,602	

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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			TRA worker v3)		
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 4.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

Additional information available from:

https://lat-web-prod-storage-

cdn.azureedge.net/nitrogenblob/storage/local/unMlcCNEco1jAEuzdf0ibZWRKBU7y19BBhYUxt7f.pdf

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **Melamine**

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ES5: Use as additive in foams

### 5.1. Title section

Structured Short Title : Use at industrial sites, Use as additive in foams; Laboratory chemicals (PC21).; Polymer preparations and compounds (PC32).; Manufacture of rubber products (SU11).; Manufact of plastics products, including compounding and conversion (SU12).; Manufacture of furniture (SU18).
---

Environn	nent	
CS1	Use as additive in foams	ERC5
Worker		
CS2	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions	PROC1
CS3	Chemical production or refinery in closed continuous process with oc- casional controlled exposure or processes with equivalent containment conditions	PROC2
CS4	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition	PROC3
CS5	Chemical production where opportunity for exposure arises	PROC4
CS6	Mixing or blending in batch processes	PROC5
CS7	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities	PROC8a
CS8	Transfer of substance or mixture (charging/discharging) at dedicated facilities	PROC8b
CS9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)	PROC9
CS10	Use as laboratory reagent	PROC15
CS11	Manual activities involving hand contact	PROC19
CS12	Manual maintenance (cleaning and repair) of machinery	PROC28

# 5.2. Conditions of use affecting exposure

# 5.2.1. Control of environmental exposure: Use at industrial site leading to inclusion into/onto article (ERC5)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Conditions and measures related to sewage treatment plant

STP type : Municipal Sewage Treatment Plant

Additional information on STP : Biological elimination

STP sludge treatment : Controlled application of sewage sludge to agricultural soil

STP effluent : 2.000 m<sup>3</sup>/d

Other conditions affecting environmental exposure

Receiving surface water flow : 18.000 m<sup>3</sup>/d

Local freshwater dilution factor : 10

# 5.2.2. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

## Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 5.2.3. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 5.2.4. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 5.2.5. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

#### Product (article) characteristics

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

### 5.2.6. Control of worker exposure: Mixing or blending in batch processes (PROC5)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

## Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 5.2.7. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 5.2.8. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

#### Product (article) characteristics

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 5.2.9. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

# Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

# Other conditions affecting workers exposure

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Indoor or outdoor use : Indoor use

Temperature : 40 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 5.2.10. Control of worker exposure: Use as laboratory reagent (PROC15)

### **Product (article) characteristics**

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 5.2.11. Control of worker exposure: Manual activities involving hand contact (PROC19)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

# Amount used, frequency and duration of use (or from service life)

Duration : Covers exposure up to 4 hrs

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 95 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 5.2.12. Control of worker exposure:Manual maintenance (cleaning and repair) of machinery (PROC28)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours (unless stated different-

ly).

# Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

## 5.3. Exposure estimation and reference to its source

# 5.3.1. Environmental release and exposure: Use at industrial site leading to inclusion into/onto article (ERC5)

Release route	Release rate Release estimation method	
Water	3 kg/day	Estimated release factor
Air	0,5 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,147 mg/L (EUSES)	0,287
Freshwater sediment	3,751 mg/kg dry weight (EUSES)	0,287
Marine water	0,015 mg/L (EUSES)	0,287
Marine sediment	0,375 mg/kg dry weight (EUSES)	0,287
Sewage treatment plant	1,46 mg/L (EUSES)	0,015
Agricultural soil	1,011 mg/kg dry weight (EUSES)	0,437
Man via environment - Inhalation	0,0000114 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,00921 mg/kg bw/day (EUSES)	0,022
combined routes		0,022

# 5.3.2. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,01 mg/m³ (ECETOC TRA worker v3)	< 0,01	
inhalative	systemic	short-term	0,04 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	0,034 mg/kg bw/day (ECETOC	< 0,01	

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			TRA worker v3)		
combined routes	systemic	long-term		< 0,01	

# 5.3.3. Worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,5 mg/m³ (ECETOC TRA worker v3)	0,06	
inhalative	systemic	short-term	2 mg/m³ (ECETOC TRA worker v3)	0,024	
dermal	systemic	long-term	1,37 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,176	

# 5.3.4. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	0,69 mg/kg bw/day (ECETOC TRA worker v3)	0,058	
combined routes	systemic	long-term		0,179	

### 5.3.5. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg bw/day (ECETOC TRA worker v3)	0,116	

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combined routes systemic long-term	0,719	
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# 5.3.6. Worker exposure: Mixing or blending in batch processes (PROC5)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 5.3.7. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 5.3.8. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,353	

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 5.3.9. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg bw/day (ECETOC TRA worker v3)	0,116	
combined routes	systemic	long-term		0,719	

### 5.3.10. Worker exposure: Use as laboratory reagent (PROC15)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,5 mg/m³ (ECETOC TRA worker v3)	0,06	
inhalative	systemic	short-term	2 mg/m³ (ECETOC TRA worker v3)	0,024	
dermal	systemic	long-term	0,34 mg/kg bw/day (ECETOC TRA worker v3)	0,029	
combined routes	systemic	long-term		0,089	

### 5.3.11. Worker exposure: Manual activities involving hand contact (PROC19)

Exposure route	Health effect	Exposure indicator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	3 mg/m³ (ECETOC TRA worker v3)	0,361	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	7,072 mg/kg bw/day (ECETOC TRA worker v3)	0,599	
combined routes	systemic	long-term		0,961	

## 5.3.12. Worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC28)

Exposure route   Health effect   Exposure indi-   Exposure level   RCR   Remarks
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according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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		cator			
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 5.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

Additional information available from:

https://lat-web-prod-storage-

cdn.azureedge.net/nitrogenblob/storage/local/unMlcCNEco1jAEuzdf0ibZWRKBU7y19BBhYUxt7f.pdf

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# ES6: Use as additive in intumescent coatings

# 6.1. Title section

Structured Short Title	: Use at industrial sites, Use as additive in intumescent coatings; Coatings and paints, thinners, paint removers (PC9a).; Polymer preparations and compounds (PC32).; Manufacture of plastics products, including compounding and conversion (SU12).; General manufacturing, e.g. machinery, equipment, vehicles, other
	transport equipment (SU17).; Building and construction work (SU19).

Environn	nent	
CS1	Use as additive in intumescent coatings	ERC5
Worker		
CS2	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition	PROC3
CS3	Chemical production where opportunity for exposure arises	PROC4
CS4	Mixing or blending in batch processes	PROC5
CS5	Industrial spraying (with Local Exhaust Ventilation)	PROC7
CS6	Industrial spraying (without Local Exhaust Ventilation)	PROC7
CS7	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid)	PROC8a
CS8	Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid)	PROC8b
CS9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)	PROC9
CS10	Roller application or brushing	PROC10
CS11	Treatment of articles by dipping and pouring	PROC13
CS12	Use as laboratory reagent	PROC15
CS13	Manual activities involving hand contact	PROC19
CS14	Manual maintenance (cleaning and repair) of machinery (solid)	PROC28
CS15	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid)	PROC8a
CS16	Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid)	PROC8b
CS17	Manual maintenance (cleaning and repair) of machinery (liquid)	PROC28

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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### 6.2. Conditions of use affecting exposure

# 6.2.1. Control of environmental exposure: Use at industrial site leading to inclusion into/onto article (ERC5)

#### Conditions and measures related to sewage treatment plant

STP type : Municipal Sewage Treatment Plant

Additional information on STP : Biological elimination

STP sludge treatment : Controlled application of sewage sludge to agricultural soil

STP effluent : 2.000 m<sup>3</sup>/d

#### Other conditions affecting environmental exposure

Receiving surface water flow : 18.000 m<sup>3</sup>/d

Local freshwater dilution factor : 10

# 6.2.2. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

# **Product (article) characteristics**

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 6.2.3. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

# Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 6.2.4. Control of worker exposure: Mixing or blending in batch processes (PROC5)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use Indoor use

40 °C : Temperature

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 6.2.5. Control of worker exposure:Industrial spraying (with Local Exhaust Ventilation) (PROC7)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product Liquid

### Amount used, frequency and duration of use (or from service life)

Duration Covers daily exposures up to 8 hours

#### Technical and organisational conditions and measures

Local exhaust ventilation

Temperature

Inhalation - minimum efficiency of 95 %

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

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Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 6.2.6. Control of worker exposure:Industrial spraying (without Local Exhaust Ventilation) (PROC7)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

Respiratory protection

Inhalation - minimum efficiency of 90 %

### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 6.2.7. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid) (PROC8a)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 6.2.8. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid) (PROC8b)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

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#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 6.2.9. Control of worker exposure:Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 6.2.10. Control of worker exposure:Roller application or brushing (PROC10)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 6.2.11. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

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## Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 6.2.12. Control of worker exposure: Use as laboratory reagent (PROC15)

# Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

## 6.2.13. Control of worker exposure: Manual activities involving hand contact (PROC19)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 95 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

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#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 6.2.14. Control of worker exposure: Manual maintenance (cleaning and repair) of machinery (solid) (PROC28)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 6.2.15. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid) (PROC8a)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

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#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 6.2.16. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid) (PROC8b)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

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#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 6.2.17. Control of worker exposure:Manual maintenance (cleaning and repair) of machinery (liquid) (PROC28)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

#### 6.3. Exposure estimation and reference to its source

# 6.3.1. Environmental release and exposure: Use at industrial site leading to inclusion into/onto article (ERC5)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Release route	Release rate	Release estimation method
Water	3 kg/day	Estimated release factor
Air	0,5 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,147 mg/L (EUSES)	0,287
Freshwater sediment	3,751 mg/kg dry weight (EUSES)	0,287
Marine water	0,015 mg/L (EUSES)	0,287
Marine sediment	0,375 mg/kg dry weight (EUSES)	0,287
Sewage treatment plant	1,46 mg/L (EUSES)	0,015
Agricultural soil	1,032 mg/kg dry weight (EUSES)	0,446
Man via environment - Inhalation	0,0000114 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,013 mg/kg bw/day (EUSES)	0,031
combined routes		0,031

# 6.3.2. Worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	0,69 mg/kg bw/day (ECETOC TRA worker v3)	0,058	
combined routes	systemic	long-term		0,179	

# 6.3.3. Worker exposure: Chemical production where opportunity for exposure arises (PROC4)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg	0,116	

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			bw/day (ECETOC TRA worker v3)		
combined routes	systemic	long-term		0,719	

# 6.3.4. Worker exposure: Mixing or blending in batch processes (PROC5)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 6.3.5. Worker exposure: Industrial spraying (with Local Exhaust Ventilation) (PROC7)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,4 mg/m³ (Stoffenmanager v5.6.10)	0,048	
inhalative	systemic	short-term	0,4 mg/m³ (Stoffenmanager v5.6.10)	> 0,01	
dermal	systemic	long-term	8,572 mg/kg bw/day (ECETOC TRA worker v3)	0,726	
combined routes	systemic	long-term		0,775	

# 6.3.6. Worker exposure: Industrial spraying (without Local Exhaust Ventilation) (PROC7)

Exposure route	Health effect	Exposure indicator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,795 mg/m³ (Stoffenmanager v5.6.10)	0,096	
inhalative	systemic	short-term	0,795 mg/m³ (Stoffenmanager v5.6.10)	> 0,01	
dermal	systemic	long-term	8,572 mg/kg bw/day (ECETOC	0,726	

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			TRA worker v3)		
combined routes	systemic	long-term		0,822	

# 6.3.7. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (solid) (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 6.3.8. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (solid) (PROC8b)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,353	

# 6.3.9. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	1,372 mg/kg bw/day (ECETOC TRA worker v3)	0,116	

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combined routes systemic long-term	0,719	
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# 6.3.10. Worker exposure: Roller application or brushing (PROC10)

Exposure route	Health effect	Exposure indicator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	3,59 mg/m³ (Stoffenmanager v5.6.10)	0,433	
inhalative	systemic	short-term	3,59 mg/m³ (Stoffenmanager v5.6.10)	0,044	
dermal	systemic	long-term	5,486 mg/kg bw/day (ECETOC TRA worker v3)	0,465	
combined routes	systemic	long-term		0,897	

# 6.3.11. Worker exposure: Treatment of articles by dipping and pouring (PROC13)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

# 6.3.12. Worker exposure: Use as laboratory reagent (PROC15)

	•		,				
Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks		
inhalative	systemic	long-term	0,5 mg/m³ (ECETOC TRA worker v3)	0,06			
inhalative	systemic	short-term	2 mg/m³ (ECETOC TRA worker v3)	0,024			
dermal	systemic	long-term	0,34 mg/kg bw/day (ECETOC TRA worker v3)	0,029			
combined routes	systemic	long-term		0,089			

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### 6.3.13. Worker exposure: Manual activities involving hand contact (PROC19)

Exposure route	Health effect	Exposure indicator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	1,74 mg/m³ (Stoffenmanager v5.6.10)	0,21	
inhalative	systemic	short-term	1,74 mg/m³ (Stoffenmanager v5.6.10)	0,021	
dermal	systemic	long-term	7,072 mg/kg bw/day (ECETOC TRA worker v3)	0,599	
combined routes	systemic	long-term		0,809	

# 6.3.14. Worker exposure: Manual maintenance (cleaning and repair) of machinery (solid) (PROC28)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,742 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,835	

# 6.3.15. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (liquid) (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

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# 6.3.16. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (liquid) (PROC8b)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

# 6.3.17. Worker exposure: Manual maintenance (cleaning and repair) of machinery (liquid) (PROC28)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

### 6.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

Additional information available from:

https://lat-web-prod-storage-

cdn.azureedge.net/nitrogenblob/storage/local/unMlcCNEco1jAEuzdf0ibZWRKBU7y19BBhYUxt7f.pdf

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# Melamine

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# ES7: Use as additive in intumescent coatings

#### 7.1. Title section

Structured Short Title	: Widespread use by professional workers, Use as additive in intumescent coatings; Coatings and paints, thinners, paint removers (PC9a).; Laboratory chemicals (PC21).; Polymer preparations and compounds (PC32).; Manufacture of plastics products, including compounding and conversion (SU12).; Building and construction work (SU19).
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Environn	nent	
CS1	Use as additive in intumescent coatings	ERC8c, ERC8f
Worker		
CS2	Mixing or blending in batch processes	PROC5
CS3	Transfer of substance or mixture (charging/discharging) at non dedicated-facilities	PROC8a
CS4	Transfer of substance or mixture (charging/discharging) at dedicated facilities	PROC8b
CS5	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)	PROC9
CS6	Roller application or brushing	PROC10
CS7	Non-industrial spraying	PROC11
CS8	Treatment of articles by dipping and pouring	PROC13
CS9	Manual maintenance (cleaning and repair) of machinery	PROC28

# 7.2. Conditions of use affecting exposure

# 7.2.1. Control of environmental exposure: Widespread use leading to inclusion into/onto article (indoor) (ERC8c) / Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

Conditions and measures related to sewage treatment plant					
STP type	: Municipal Sewage Treatment Plant				
Additional information on STP	: Biological elimination				
STP sludge treatment	: Controlled application of sewage sludge to agricultural soil				
STP effluent	: 2.000 m³/d				

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Other conditions affecting environmental exposure

Receiving surface water flow : 18.000 m<sup>3</sup>/d

Local freshwater dilution factor : 10

#### 7.2.2. Control of worker exposure: Mixing or blending in batch processes (PROC5)

#### **Product (article) characteristics**

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

## Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

## Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 7.2.3. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

## Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

## Amount used, frequency and duration of use (or from service life)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 7.2.4. Control of worker exposure:Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

## Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 7.2.5. Control of worker exposure:Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

## Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

# Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

## 7.2.6. Control of worker exposure:Roller application or brushing (PROC10)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Dermal - minimum efficiency of 80 %

### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

#### Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

## 7.2.7. Control of worker exposure:Non-industrial spraying (PROC11)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 90 %

Respiratory protection

Inhalation - minimum efficiency of 90 %

# Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

## Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



#### Melamine

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#### 7.2.8. Control of worker exposure:Treatment of articles by dipping and pouring (PROC13)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

# Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 7.2.9. Control of worker exposure:Manual maintenance (cleaning and repair) of machinery (PROC28)

#### Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Liquid

#### Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

#### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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For further specification, refer to section 8 of the SDS.

Dermal - minimum efficiency of 80 %

#### Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 115 °C

## Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 7.3. Exposure estimation and reference to its source

# 7.3.1. Environmental release and exposure: Widespread use leading to inclusion into/onto article (indoor) (ERC8c) / Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

Release route	Release rate	Release estimation method
Water	0 kg/day	Estimated release factor
Air	0 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,00059 mg/L (EUSES)	< 0,01
Freshwater sediment	0,015 mg/kg dry weight (EUSES)	< 0,01
Marine water	0,00006 mg/L (EUSES)	< 0,01
Marine sediment	0,00145 mg/kg dry weight (EUSES)	< 0,01
Sewage treatment plant	0 mg/L (EUSES)	< 0,01
Agricultural soil	0,00066 mg/kg dry weight (EUSES)	< 0,01
Man via environment - Inhalation	0 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,00002 mg/kg bw/day (EUSES)	< 0,01
combined routes		< 0,01

#### 7.3.2. Worker exposure: Mixing or blending in batch processes (PROC5)

Exposure route	Health effect	Exposure indi-	Exposure level	RCR	Remarks
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		cator		
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602
inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232
combined routes	systemic	long-term		0,835

# 7.3.3. Worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

# 7.3.4. Worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

# 7.3.5. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

# 7.3.6. Worker exposure: Roller application or brushing (PROC10)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	3,61 mg/m³ (Stof- fenmanager v5.6.10)	0,435	
inhalative	systemic	short-term	3,61 mg/m³ (Stof- fenmanager v5.6.10)	0,044	
dermal	systemic	long-term	5,486 mg/kg bw/day (ECETOC TRA worker v3)	0,465	
combined routes	systemic	long-term		0,9	

# 7.3.7. Worker exposure: Non-industrial spraying (PROC11)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,398 mg/m³ (Stoffenmanager v5.6.10)	0,048	
inhalative	systemic	short-term	0,398 mg/m³ (Stoffenmanager v5.6.10)	< 0,01	
dermal	systemic	long-term	10,71 mg/kg bw/day (ECETOC TRA worker v3)	0,908	
combined routes	systemic	long-term		0,956	

# 7.3.8. Worker exposure: Treatment of articles by dipping and pouring (PROC13)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

#### 7.3.9. Worker exposure: Manual maintenance (cleaning and repair) of machinery (PROC28)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0,525 mg/m³ (ECETOC TRA worker v3)	0,063	
inhalative	systemic	short-term	0,525 mg/m³ (ECETOC TRA worker v3)	< 0,01	
dermal	systemic	long-term	2,743 mg/kg bw/day (ECETOC TRA worker v3)	0,232	
combined routes	systemic	long-term		0,296	

# 7.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

Additional information available from:

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## Melamine

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ES8: PU foams - Workers (industrial)

#### 8.1. Title section

Structured Short Title	: Service life - workers, PU foams - Workers (industrial); Vehicles
	covered by End of Life Vehicles (ELV) directive (AC1a).; Plastic
	articles (AC13).; Other plastic articles (AC13g).

Environn	Environment				
CS1	PU foams - Workers (industrial)	ERC12a			
Worker					
CS2	Low energy manipulation and handling of substances bound in/on materials and/or articles	PROC21			
CS3	High (mechanical) energy work-up of substances bound in/on materials and/or articles	PROC24			

# 8.2. Conditions of use affecting exposure

# 8.2.1. Control of environmental exposure: Processing of articles at industrial sites with low release (ERC12a)

Conditions and measures related to sewage treatment plant					
STP type	:	Municipal Sewage Treatment Plant			
Additional information on STP	:	Biological elimination			
STP sludge treatment	:	Controlled application of sewage sludge to agricultural soil			
STP effluent	:	2.000 m <sup>3</sup> /d			
Other conditions affecting enviro	onme	ntal exposure			
Receiving surface water flow	:	18.000 m³/d			
Local freshwater dilution factor	:	10			

# 8.2.2. Control of worker exposure:Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Product (article) characteristics	
Covers percentage substance in the product up to 100	%.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 8.2.3. Control of worker exposure: High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

## Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

## Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 8.3. Exposure estimation and reference to its source

# 8.3.1. Environmental release and exposure: Processing of articles at industrial sites with low release (ERC12a)

Release route	ase route Release rate Release estimation r	
Water	0 kg/day	Estimated release factor
Air	0 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,00059 mg/L (EUSES)	< 0,01
Freshwater sediment	0,015 mg/kg dry weight (EUSES)	< 0,01
Marine water	0,00006 mg/L (EUSES)	< 0,01
Marine sediment	0,00145 mg/kg dry weight (EUSES)	< 0,01
Sewage treatment plant	0 mg/L (EUSES)	< 0,01
Agricultural soil	0,00066 mg/kg dry weight (EUSES)	< 0,01
Man via environment - Inhalation	0 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,00002 mg/kg bw/day (EUSES)	< 0,01
combined routes		< 0,01

# 8.3.2. Worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	3 mg/m³ (ECETOC TRA worker v3)	0,361	
inhalative	systemic	short-term	12 mg/m³ (ECETOC TRA worker v3)	0,146	
dermal	systemic	long-term	2,83 mg/kg bw/day (ECETOC TRA worker v3)	0,24	
combined routes	systemic	long-term		0,601	

# 8.3.3. Worker exposure: High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

Exposure rout	Health effect	Exposure indi-	Exposure level	RCR	Remarks	
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		cator			
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	2,83 mg/kg bw/day (ECETOC TRA worker v3)	0,24	
combined routes	systemic	long-term		0,36	

# 8.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

Additional information available from:

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ES9: Intumescent coatings - Workers (industrial)

#### 9.1. Title section

Structured Short Title	: Service life - workers, Intumescent coatings - Workers (industri-
	al); Fabrics, textiles and apparel: Large surface area articles
	(AC5a).; Metal articles: Large surface area articles (AC7a).;
	Plastic articles (AC13).

Environ	ment	
CS1	Intumescent coatings - Workers (industrial)	ERC12a
Worker		
CS2	Low energy manipulation and handling of substances bound in/on materials and/or articles	PROC21
CS3	High (mechanical) energy work-up of substances bound in/on materials and/or articles	PROC24

# 9.2. Conditions of use affecting exposure

# 9.2.1. Control of environmental exposure: Processing of articles at industrial sites with low release (ERC12a)

Conditions and measures relate	ed to s	ewage treatment plant
STP type	:	Municipal Sewage Treatment Plant
Additional information on STP	:	Biological elimination
STP sludge treatment	:	Controlled application of sewage sludge to agricultural soil
STP effluent	:	2.000 m³/d
Other conditions affecting envir	onme	ntal exposure
Receiving surface water flow	:	18.000 m³/d
Local freshwater dilution factor	:	10

# 9.2.2. Control of worker exposure:Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Product (article) characteristics	
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according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

# 9.2.3. Control of worker exposure:High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

#### Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Ensure regular inspection, cleaning and maintenance of equipment and machines.

Clear spills immediately.

Ensure daily cleaning of the equipment.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 9.3. Exposure estimation and reference to its source

# 9.3.1. Environmental release and exposure: Processing of articles at industrial sites with low release (ERC12a)

Release route	Release rate	Release estimation method
Water	0 kg/day	Estimated release factor
Air	0 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,00059 mg/L (EUSES)	< 0,01
Freshwater sediment	0,015 mg/kg dry weight (EUSES)	< 0,01
Marine water	0,00006 mg/L (EUSES)	< 0,01
Marine sediment	0,00145 mg/kg dry weight (EUSES)	< 0,01
Sewage treatment plant	0 mg/L (EUSES)	< 0,01
Agricultural soil	0,00066 mg/kg dry weight (EUSES)	< 0,01
Man via environment - Inhalation	0 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,00002 mg/kg bw/day (EUSES)	< 0,01
combined routes		< 0,01

# 9.3.2. Worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	3 mg/m³ (ECETOC TRA worker v3)	0,361	
inhalative	systemic	short-term	12 mg/m³ (ECETOC TRA worker v3)	0,146	
dermal	systemic	long-term	2,83 mg/kg bw/day (ECETOC TRA worker v3)	0,24	
combined routes	systemic	long-term		0,601	

# 9.3.3. Worker exposure: High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

Exposure route	Health effect	Exposure indi-	Exposure level	RCR	Remarks
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according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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		cator			
inhalative	systemic	long-term	1 mg/m³ (ECETOC TRA worker v3)	0,12	
inhalative	systemic	short-term	4 mg/m³ (ECETOC TRA worker v3)	0,049	
dermal	systemic	long-term	2,83 mg/kg bw/day (ECETOC TRA worker v3)	0,24	
combined routes	systemic	long-term		0,36	

# 9.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

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# **ES10: Intumescent coatings - Professional Workers**

#### 10.1. Title section

Structured Short Title	: Service life - workers, Intumescent coatings - Professional
	Workers; Fabrics, textiles and apparel: Large surface area arti-
	cles (AC5a).; Metal articles: Large surface area articles (AC7a).;
	Plastic articles (AC13).

Environ	ment	
CS1	Intumescent coatings - Professional Workers	ERC10a, ERC11a
Worker		
CS2	Low energy manipulation and handling of substances bound in/on materials and/or articles	PROC21

# 10.2. Conditions of use affecting exposure

# 10.2.1. Control of environmental exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

Conditions and measures related to sewage treatment plant					
STP type	STP type : Municipal Sewage Treatment Plant				
Additional information on STP	: Biological elimination				
STP sludge treatment	: Controlled application of sewage sludge to agricultural soil				
STP effluent	: 2.000 m³/d				
Other conditions affecting enviro	nmental exposure				
Receiving surface water flow	: 18.000 m³/d				
Local freshwater dilution factor	: 10				

# 10.2.2. Control of worker exposure:Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Product (article) characteristics
Covers percentage substance in the product up to 100 %.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Physical form of product : Solid, medium dustiness

Amount used, frequency and duration of use (or from service life)

Duration : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : 40 °C

## 10.3. Exposure estimation and reference to its source

# 10.3.1. Environmental release and exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

Release route	Release rate	Release estimation method
Water	0 kg/day	Estimated release factor
Air	0 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,00059 mg/L (EUSES)	< 0,01
Freshwater sediment	0,015 mg/kg dry weight (EUSES)	< 0,01
Marine water	0,00006 mg/L (EUSES)	< 0,01
Marine sediment	0,00145 mg/kg dry weight (EUSES)	< 0,01
Sewage treatment plant	0 mg/L (EUSES)	< 0,01
Agricultural soil	0,00066 mg/kg dry weight (EUSES)	< 0,01
Man via environment - Inhalation	0 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,00002 mg/kg bw/day (EUSES)	< 0,01
combined routes		< 0,01

# 10.3.2. Worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	5 mg/m³ (ECETOC TRA worker v3)	0,602	

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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inhalative	systemic	short-term	20 mg/m³ (ECETOC TRA worker v3)	0,243	
dermal	systemic	long-term	2,83 mg/kg bw/day (ECETOC TRA worker v3)	0,24	
combined routes	systemic	long-term		0,842	

# 10.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

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## **ES11: PU foams - Consumers**

#### 11.1. Title section

Structured Short Title : Service life - consumers, PU foams - Consumers; Plastic articles (AC13).

Environn	Environment			
CS1	PU foams - Consumers	ERC10a, ERC11a		
Consume	er			
CS2	Plastic articles	AC13		

## 11.2. Conditions of use affecting exposure

# 11.2.1. Control of environmental exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

STP type : Municipal Sewage Treatment Plant

Additional information on STP : Biological elimination

STP sludge treatment : Controlled application of sewage sludge to agricultural soil

STP effluent : 2.000 m³/d

Other conditions affecting environmental exposure

Receiving surface water flow : 18.000 m<sup>3</sup>/d

Local freshwater dilution factor : 10

# 11.2.2. Control of consumer exposure: Plastic articles (AC13)

# Product (article) characteristics

Covers concentrations up to 30 %

Physical form of product : Solid

Other conditions affecting consumers exposure

Indoor or outdoor use : Indoor use

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 11.3. Exposure estimation and reference to its source

# 11.3.1. Environmental release and exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

Release route	Release rate	Release estimation method
Water	0 kg/day	Estimated release factor
Air	0 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,00059 mg/L (EUSES)	< 0,01
Freshwater sediment	0,015 mg/kg dry weight (EUSES)	< 0,01
Marine water	0,00006 mg/L (EUSES)	< 0,01
Marine sediment	0,00145 mg/kg dry weight (EUSES)	< 0,01
Sewage treatment plant	0 mg/L (EUSES)	< 0,01
Agricultural soil	0,00066 mg/kg dry weight (EUSES)	< 0,01
Man via environment - Inhalation	0 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,00002 mg/kg bw/day (EUSES)	< 0,01
combined routes		< 0,01

# 11.3.2. Consumer exposure: Plastic articles (AC13)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	< 0,01 mg/m³ (measured data)	< 0,01	
dermal	systemic for babies	long-term	0,148 mg/kg bw/day (measured data)	0,035	for babies
dermal	systemic for adults	long-term	0,064 mg/kg bw/day (measured data)	0,015	for adults
oral	systemic	long-term	< 0,01 mg/kg bw/day (measured data)	< 0,01	
combined routes	systemic for babies	long-term		0,035	for babies
combined routes	systemic	long-term		0,015	for adults

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#### Additional information on exposure estimation

Inhalation exposure is considered to be not relevant.

Oral exposure is considered to be not relevant.

# 11.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

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## **ES12: Intumescent coatings - Consumers**

#### 12.1. Title section

Structured Short Title : Service life - consumers, Intumescent coatings - Consumers; Plastic articles (AC13).

Environr	Environment			
CS1	Intumescent coatings - Consumers	ERC10a, ERC11a		
Consum	Consumer			
CS2	Plastic articles	AC13		

## 12.2. Conditions of use affecting exposure

# 12.2.1. Control of environmental exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

STP type : Municipal Sewage Treatment Plant

Additional information on STP : Biological elimination

STP sludge treatment : Controlled application of sewage sludge to agricultural soil

STP effluent : 2.000 m³/d

Other conditions affecting environmental exposure

Receiving surface water flow : 18.000 m<sup>3</sup>/d

Local freshwater dilution factor : 10

Indoor or outdoor use

# 12.2.2. Control of consumer exposure: Plastic articles (AC13)

# Product (article) characteristics Covers concentrations up to 30 % Physical form of product : Solid Other conditions affecting consumers exposure

: Indoor use

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 12.3. Exposure estimation and reference to its source

# 12.3.1. Environmental release and exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

Release route	Release rate	Release estimation method
Water	0 kg/day	Estimated release factor
Air	0 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Compartment	Exposure level	RCR
Freshwater	0,00059 mg/L (EUSES)	< 0,01
Freshwater sediment	0,015 mg/kg dry weight (EUSES)	< 0,01
Marine water	0,00006 mg/L (EUSES)	< 0,01
Marine sediment	0,00145 mg/kg dry weight (EUSES)	< 0,01
Sewage treatment plant	0 mg/L (EUSES)	< 0,01
Agricultural soil	0,00066 mg/kg dry weight (EUSES)	< 0,01
Man via environment - Inhalation	0 mg/m³ (EUSES)	< 0,01
Man via environment - Oral	0,00002 mg/kg bw/day (EUSES)	< 0,01
combined routes		< 0,01

#### 12.3.2. Consumer exposure: Plastic articles (AC13)

Exposure route	Health effect	Exposure indi- cator	Exposure level	RCR	Remarks
inhalative	systemic	long-term	0 mg/m³	< 0,01	
dermal	systemic	long-term	0 mg/kg bw/day	< 0,01	
oral	systemic	long-term	0 mg/kg bw/day	< 0,01	
combined routes	systemic	long-term		< 0,01	

## Additional information on exposure estimation

Inhalation exposure is considered to be not relevant.

Oral exposure is considered to be not relevant.

Dermal exposure is considered to be not relevant.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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# 12.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The safety data sheet at hand provides the user with risk management measures and operational conditions which enables him to work safely with the substance / mixture. If other risk management measures / operational conditions are adopted, the user has to ensure, that the risks are managed to at least equivalent levels.

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