

# SAFETY DATA SHEET

## Melamine

Version 3.0

Revision Date:  
28.09.2023

Date of last issue: 16.10.2020  
Date of first issue: 04.09.2017

### Section 1: Identification

Product name : Melamine

#### Manufacturer or supplier's details

Manufacturer, importer, supplier : LAT Nitrogen Linz GmbH  
St.-Peter Strasse 25, A-4021 Linz, Austria  
Telephone: +43 732 6914-0

LAT Nitrogen Piesteritz GmbH  
Möllensdorfer Strasse 13, D-06886 Lutherstadt Wittenberg,  
Germany  
Telephone: +49 3491 68 2200

Emergency telephone number : +64 9 929 1483 (NCEC Carechem 24)

E-mail address : [sds@lat-nitrogen.com](mailto:sds@lat-nitrogen.com)

#### Recommended use of the chemical and restrictions on use

Recommended use : Manufacture of resins  
Fire retardant

Restrictions on use : Food/ feedstuff additives

### Section 2: Hazard identification

#### GHS Classification

Carcinogenicity : 6.72

Reproductive toxicity : Repr.2

Specific target organ toxicity - repeated exposure (Oral) : STOT RE2 (Urinary tract)

#### GHS label elements

Hazard pictograms :



Signal word : Warning

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- 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.

### Other hazards which do not result in classification

None known.

### Section 3: Composition/information on ingredients

- Substance / Mixture : Substance
- Substance name : 1,3,5-Triazine-2,4,6-Triamine
- CAS-No. : 108-78-1

#### Components

| Chemical name                 | CAS-No.  | Concentration (% w/w) |
|-------------------------------|----------|-----------------------|
| 2,4,6-triamino-1,3,5-triazine | 108-78-1 | >= 99.8               |

### Section 4: 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 immediately.
- In case of skin contact : Remove/ Take off immediately all contaminated clothing. Wash off with soap and plenty of water.

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|---|--|
| In case of eye contact                                      | : Rinse thoroughly with plenty of water, also under the eyelids.<br>If easy to do, remove contact lens, if worn.   |
| If swallowed  | : If swallowed, DO NOT induce vomiting.<br>Rinse mouth with water.<br>Seek medical advice.   |
| Most important symptoms and effects, both acute and delayed | : Inhalation of dust may provoke the following symptoms:<br>Respiratory irritation<br>Cough<br>May irritate eyes.<br>Ingestion may affect the following organ(s):<br>Kidney<br>Bladder<br>Suspected of damaging fertility.<br>May be harmful if swallowed.<br>Suspected of damaging fertility. |
| Notes to physician  | : Treat symptomatically.<br>There is no specific antidote available.   |

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### Section 5: Fire-fighting measures

|   |   |
|---|---|
| Suitable extinguishing media                  | : Water spray<br>Dry powder<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )  |
| Specific hazards during firefighting          | : Hazardous decomposition products formed under fire conditions.<br>Hydrogen cyanide (hydrocyanic acid)<br>Ammonia<br>Nitrogen oxides (NO <sub>x</sub> )  |
| Specific extinguishing methods                | : Standard procedure for chemical fires.<br>In the event of fire, cool tanks with water spray.<br>Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus and protective suit.  |

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### Section 6: Accidental release measures

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|---|--|
| Personal precautions, protective equipment and emergency procedures | :<br>Avoid dust formation.<br>Avoid breathing dust.<br>Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).<br>Use personal protective equipment.<br>In case of strong dust development:<br>Dust impervious protective suit |
| Environmental precautions   | : Prevent product from entering environment and drains.  |
| Methods and materials for containment and cleaning up               | :<br>Contain spillage, pick up with a vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations.<br>Avoid dust formation.<br>Dispose of in accordance with local regulations.  |

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### Section 7: Handling and storage

|   |   |
|---|---|
| Advice on protection against fire and explosion | : Product resists ignition and does not promote flame spread.   |
| Advice on safe handling                         | :<br>Do not breathe dust.<br>Ensure adequate ventilation.<br>In case of dust development use dust mask.<br>Hazardous decomposition products will be formed at elevated temperatures.                                  |
| Hygiene measures                                | :<br>Remove contaminated clothing and protective equipment before entering eating areas.<br>Wash hands before eating, drinking, or smoking.<br>Handle in accordance with good industrial hygiene and safety practice. |
| Conditions for safe storage                     | :<br>Keep in a dry, cool place.<br>Store in a place accessible by authorized persons only.  |
| Materials to avoid                              | : Keep away from food, drink and animal feedingstuffs.  |
| Further information on storage stability        | : Stable under normal conditions.   |

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### Section 8: Exposure controls/personal protection

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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**Engineering measures** : Avoid dust formation.  
Provide adequate ventilation.

### Personal protective equipment

Respiratory protection : 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)

### Hand protection

Material : Nitrile rubber  
Break through time :  $\geq 480$  min  
Glove thickness :  $\geq 0.11$  mm  
Directive : 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.

Eye protection : Safety glasses  
(EN 166)

Skin and body protection : Wear suitable protective clothing.  
In case of strong dust development:  
Dust impervious protective suit

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

Appearance : crystalline, powder

Colour : white

Odour : odourless

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|  |   |   |
|--|---|---|
| pH   | : | 8.0 - 9.5<br>10% aqueous solution                           |
| Melting point                                    | : | 361 °C  |
| Boiling point                                    | : | Decomposes below the boiling point.                         |
| Flash point                                      | : | Not applicable  |
| Flammability (solid, gas)                        | : | The product is not flammable.                               |
| Upper explosion limit / Upper flammability limit | : | Not applicable (solid)                                      |
| Lower explosion limit / Lower flammability limit | : | Not applicable (solid)                                      |
| Vapour pressure                                  | : | Not applicable (solid)                                      |
| Relative vapour density                          | : | Not applicable (solid)                                      |
| Density  | : | 1.574 g/cm <sup>3</sup>                                     |
| Bulk density                                     | : | 650 - 800 kg/m <sup>3</sup>                                 |
| Solubility(ies)                                  |   |   |
| Water solubility                                 | : | 3.2 g/l slightly soluble (20 °C)                            |
| Solubility in other solvents                     | : | 0.3 g/l (30 °C)<br>Solvent: Acetone                         |
|  |   | 0.6 g/l (30 °C)<br>Solvent: Ethanol                         |
| Partition coefficient: n-octanol/water           | : | log Pow: -1.22  |
| Auto-ignition temperature                        | : | Product resists ignition and does not promote flame spread. |
| Decomposition temperature                        | : | > 280 °C  |
| Viscosity  |   |   |
| Viscosity, kinematic                             | : | Not applicable (solid)                                      |
| Explosive properties                             | : | Not explosive   |
| Oxidizing properties                             | : | The substance or mixture is not classified as oxidizing.    |

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|                         |   |  |
|-------------------------|---|--|
| Molecular weight        | : | 126.12 g/mol   |
| Minimum ignition energy | : | > 1.4 kJ<br>Method: VDI 2263-1<br>not dust explosive |
| Particle size           | : | < 90 µm<br>> 85 %                                    |

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### Section 10: Stability and reactivity

|                                    |   |   |
|------------------------------------|---|---|
| Reactivity                         | : | Stable at normal ambient temperature and pressure.  |
| Chemical stability                 | : | Stable under normal conditions.   |
| Possibility of hazardous reactions | : | No dangerous reaction known under conditions of normal use.<br>Heating can release hazardous gases. |
| Conditions to avoid                | : | None known.   |
| Incompatible materials             | : | Strong acids and oxidizing agents   |
| Hazardous decomposition products   | : | Under fire conditions:<br>Ammonia<br>Nitrogen oxides (NOx)<br>Hydrogen cyanide (hydrocyanic acid)   |

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### Section 11: Toxicological information

#### Acute toxicity

May be harmful if swallowed.

#### Product:

|                           |   |  |
|---------------------------|---|--|
| Acute oral toxicity       | : | LD50 (Rat, male): 3161 mg/kg bw  |
| Acute inhalation toxicity | : | LC50 (Rat, male and female): > 5190<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 403 |
| Acute dermal toxicity     | : | LD50 Dermal (Rabbit): > 1000 mg/kg bw  |

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### 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  
Result : No eye irritation  
Exposure time : 72 h

### Respiratory or skin sensitisation

#### Skin sensitisation

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

#### 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.

### Chronic toxicity

#### 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.

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### **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 development | : Species: Rat<br>Teratogenicity: NOAEL: 400 mg/kg bw/day<br>Method: OECD Test Guideline 414<br>Result: No teratogenic effects      |
|                               | Species: Rabbit<br>Developmental Toxicity: NOAEL: 150 mg/kg bw/day<br>Method: OECD Test Guideline 414<br>Result: No adverse effects |

### **STOT - single exposure**

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

### **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

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### Components:

#### **2,4,6-triamino-1,3,5-triazine:**

Not applicable

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## Section 12: Ecological information

### **Ecotoxicity**

#### Product:

- |  |   |   |
|--|---|---|
| Toxicity to fish   | : | LC50 (Rainbow trout): > 3,000 mg/l<br>Exposure time: 96 h   |
| Toxicity to daphnia and other aquatic invertebrates                    | : | EC50 (Daphnia magna (Water flea)): 200 mg/l<br>Exposure time: 48 h<br>Test Type: static test<br>Remarks: Fresh water                                  |
| Toxicity to algae/aquatic plants                                       | : | NOEC (Selenastrum capricornutum (green algae)): 98 mg/l<br>End point: Growth inhibition<br>Exposure time: 96 h<br>Remarks: Fresh water                |
| Toxicity to fish (Chronic toxicity)                                    | : | NOEC: 5.1 mg/l<br>Exposure time: 36 d<br>Remarks: Fresh water   |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia (water flea)): 11 mg/l<br>Exposure time: 21 d<br>Test Type: semi-static test<br>Method: OECD Test Guideline 211<br>Remarks: Fresh water |

### **Persistence and degradability**

#### Product:

- |                  |   |  |
|------------------|---|--|
| Biodegradability | : | Remarks: Not readily biodegradable.<br>Not inherently biodegradable. |
|------------------|---|--|

### **Bioaccumulative potential**

#### Product:

- |                 |   |   |
|-----------------|---|---|
| Bioaccumulation | : | Species: Fish<br>Bioconcentration factor (BCF): 3.8<br>Remarks: Bioaccumulation not expected. |
|-----------------|---|---|

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### Mobility in soil

#### **Product:**

Distribution among environmental compartments : Medium: Soil  
log K<sub>oc</sub>: 1.1 - 1.5  
Remarks: Not expected to adsorb on soil.

Medium: Water  
Remarks: 94%

Medium: Air  
Remarks: 6%

### Other adverse effects

#### **Product:**

Additional ecological information : Do not allow product to reach ground water, water bodies or sewage system.  
Spillage of even small amounts can lead to pollution of drinking water.

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## Section 13: Disposal considerations

### Disposal methods

Waste from residues : 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.

Contaminated packaging : Empty remaining contents.  
Dispose of in accordance with local regulations.

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## Section 14: Transport information

### International Regulations

#### **UNRTDG**

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable

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### IATA-DGR

|  |                  |
|--|------------------|
| UN/ID No.                                | : Not applicable |
| Proper shipping name                     | : Not applicable |
| Class                                    | : Not applicable |
| Subsidiary risk                          | : Not applicable |
| Packing group                            | : Not applicable |
| Labels                                   | : Not applicable |
| Packing instruction (cargo aircraft)     | : Not applicable |
| Packing instruction (passenger aircraft) | : Not applicable |

### IMDG-Code

|                      |                  |
|----------------------|------------------|
| UN number            | : Not applicable |
| Proper shipping name | : Not applicable |
| Class                | : Not applicable |
| Subsidiary risk      | : Not applicable |
| Packing group        | : Not applicable |
| Labels               | : Not applicable |
| EmS Code             | : Not applicable |
| Marine pollutant     | : Not applicable |

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### NZS 5433

|                      |                  |
|----------------------|------------------|
| UN number            | : Not applicable |
| Proper shipping name | : Not applicable |
| Class                | : Not applicable |
| Subsidiary risk      | : Not applicable |
| Packing group        | : Not applicable |
| Labels               | : Not applicable |
| Hazchem Code         | : Not applicable |

### Special precautions for user

|         |  |
|---------|--|
| Remarks | : Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR |
|---------|--|

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## Section 15: Regulatory information

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

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### Section 16: Other information

#### Further information

|   |   |
|---|---|
| Training advice   | : Provide adequate information, instruction and training for operators. |
| Other information   | : Issued according to the GHS Regulation.                               |
| Issuer  | : LAT Nitrogen, Group Product Stewardship / Steffen Pfeiffer            |
| Sources of key data used to compile the Safety Data Sheet | : Chemical Safety Report, Melamine. Melamine REACH Consortium, 2023     |
| Date format   | : dd.mm.yyyy  |

#### Full text of other abbreviations

AIIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; GHS - Globally Harmonized 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 Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations

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Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

### Disclaimer

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