

SECTION 1: Identification**1.1. Product identifier**

| | |
|--------------|--|
| Product form | : Substance |
| Name | : Melamine |
| Trade name | : MelaminebyOCITM GPH MelaminebyOCITM GPH LD MelaminebyOCITM SLP Melafine® Bio MelaminebyOCITM GPH Bio MelaminebyOCITM SLP Bio Melafine® |
| IUPAC name | : 1,3,5-Triazine-2,4,6-triamine |
| CAS-No. | : 108-78-1 |
| Formula | : C ₃ H ₆ N ₆ |
| Synonyms | : Cyanuramide; Cyanurotriamide; 2,4,6-Triamino-s-triazine |

1.2. Recommended use and restrictions on use

| | |
|---------------------|--|
| Recommended use | : Industrial use, White crystalline powder, used in high performance products like wood-based panels, laminates, coatings, molding powders, concrete plasticizers and flame retardants |
| Restrictions on use | : Addition to food or feed products |

1.3. Supplier**Supplier**

OCI Nitrogen B.V.
1 Poststraat
Sittard, 6135 KR
The Netherlands
T +31 (0) 46 7020205
info.melamine@oci-global.com - www.oci-global.com

Supplier

OCI Melamine Americas, Inc.
C/O Advanced Louisiana Logistics
8550 United Plaza Drive, Suite 702
Baton Rouge, LA 70809
USA
T +1 (225) 685 30 20 / 685 30 37 - F +1 (225) 685 30 03

Supplier

OCI Trading Shanghai
17N, Feizhou Guoji Building
No. 899 Lingling Road
Shanghai, 200030
China
T +86 (0)21 64415441 - F +86 (0)21 64415440

1.4. Emergency telephone number

| | |
|------------------|--|
| Emergency number | : Chemtrec: +1-800-424-9300 (24/7) & Alert & Care Centre Chemelot (Geleen, The Netherlands): +31 (0) 46 4765555 (24/7) |
|------------------|--|

SECTION 2: Hazard identification**2.1. Classification of the substance or mixture****Classification (GHS CA)**

Carcinogenicity, Category 2
Reproductive toxicity, Category 2
Specific target organ toxicity – Repeated exposure, Category 2

Suspected of causing cancer.
Suspected of damaging fertility.
May cause damage to organs (urinary tract) through prolonged or repeated exposure.

Full text of H-statements: see section 16

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2.2. GHS Label elements, including precautionary statements

GHS CA labelling

Hazard pictograms (GHS CA) :



Signal word (GHS CA) :

Warning

Hazard statements (GHS CA) :

Suspected of causing cancer.
Suspected of damaging fertility.
May cause damage to organs (urinary tract) through prolonged or repeated exposure.

Precautionary statements (GHS CA) :

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust.
Wear protective gloves, protective clothing, eye protection, face protection.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : Melamine
CAS-No. : 108-78-1
EC-No. : 203-615-4

| Name | Chemical name/Synonyms | Product identifier | Conc. (% w/w) | Classification (GHS CA) |
|-------------------------------|---|--------------------|---------------|---|
| 1,3,5-Triazine-2,4,6-triamine | Cyanuramide; Cyanurotriamide; 2,4,6-Triamino-s-triazine | CAS-No.: 108-78-1 | 100 | Carc. 2, H351 Repr. 2, H361 STOT RE 2, H373 |

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If breathing stops, give artificial respiration. Get medical attention immediately if symptoms occur.

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|---------------------------------------|--|
| First-aid measures after skin contact | : Wash skin with plenty of water and soap. Remove all contaminated clothing and footwear. |
| First-aid measures after eye contact | : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur. |
| First-aid measures after ingestion | : Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. |
| First-aid measures general | : IF exposed or concerned: Get medical advice/attention. |

4.2. Most important symptoms and effects (acute and delayed)

| | |
|------------------------------------|--|
| Symptoms/effects after inhalation | : Dust from this product may cause irritation to the respiratory tract. |
| Symptoms/effects after eye contact | : Dust from this product may cause eye irritation. |
| Chronic symptoms | : May damage fertility. Suspected carcinogen. May cause damage to organs (urinary tract) through prolonged or repeated exposure. |

4.3. Immediate medical attention and special treatment, if necessary

| | |
|-----------------------------------|--|
| Other medical advice or treatment | : Treat symptomatically. Hazardous decomposition products in case of fire. Symptoms may be delayed. Consult an expert. |
|-----------------------------------|--|

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

| | |
|------------------------------|----------------------------------|
| Suitable extinguishing media | : Water spray. Dry powder. Foam. |
|------------------------------|----------------------------------|

5.2. Unsuitable extinguishing media

No additional information available

5.3. Specific hazards arising from the hazardous product

| | |
|--|---|
| Fire hazard | : The product is not flammable. |
| Hazardous decomposition products in case of fire | : Under fire conditions, hazardous fumes will be present: Carbon dioxide, Carbon monoxide, Amines, Nitrogen oxides, Ammonia, Hydrogen cyanide > 600°C / 1112°F. |

5.4. Special protective equipment and precautions for fire-fighters

| | |
|--------------------------------|--|
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |
|--------------------------------|--|

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
|---|--|
| Personal Precautions, Protective Equipment and Emergency Procedures | : Ventilate spillage area. Evacuate unnecessary personnel. Do not breathe dust. Do not touch or walk on the spilled product. Avoid contact with skin, eyes and clothing. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
|---|--|

6.2. Methods and materials for containment and cleaning up

| | |
|-------------------------|---|
| Methods for cleaning up | : Mechanically recover the product. Avoid dust formation. Keep in suitable, closed containers for disposal. Notify authorities if product enters sewers or public waters. |
| Other information | : Dispose of waste product or used containers according to local regulations. Dispose of materials or solid residues at an authorized site. |

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-------------------------------|---|
| Precautions for safe handling | : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Ensure good ventilation of the work station. Avoid dust formation. Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. |
| Hygiene measures | : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Remove contaminated clothes. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|---------------------------|---|
| Storage conditions | : Store in accordance with local, regional, national or international regulation. Store in dry, well-ventilated area. Store locked up. |
| Incompatible materials | : Strong oxidizing agents. |
| Heat and ignition sources | : Keep out of direct sunlight. |
| Storage area | : (1) Do not stack big bags > 1000 kg. Do not stack more than two bulk bags ≤1000 kg on top of each other in connection with the risk of ripping. (2) 'MelaminebyOCI SLP' may not be stacked. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| | |
|---|--|
| Melamine (108-78-1) | |
| Canada (British Columbia) - Occupational Exposure Limits | |
| Local name | All provinces; Reference value: EU REACH - Derived No Effect Level (DNEL) - Worker - Long-term - systemic effects, inhalation: 8.3 mg/m ³ |
| 1,3,5-Triazine-2,4,6-triamine (108-78-1) | |
| Canada (British Columbia) - Occupational Exposure Limits | |
| Notations and remarks | IARC group 2B carcinogen |
| Regulatory reference | OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC) |

8.2. Appropriate engineering controls

| | |
|----------------------------------|--|
| Appropriate engineering controls | : Ensure good ventilation of the work station. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. |
| Environmental exposure controls | : Avoid release to the environment. |

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

When this substance/product is used in a mixture consult your industrial hygienist to adjust the personal protective equipment to the (hazard) properties of the mixture.

Hand protection:

Chemically resistant protective gloves. Efficiency of at least: 80%. To increase glove efficiency additional good practice is required, e.g. provision of training or management supervision.

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| Type | Material | Permeation | Thickness (mm) | Penetration |
|-------------------|--|-------------------|----------------|-------------|
| Protective gloves | Chloroprene rubber (CR), Butyl rubber, Polyvinylchloride (PVC) | 6 (> 480 minutes) | 0.5 | |
| Protective gloves | Nitrile rubber (NBR) | 6 (> 480 minutes) | 0.35 | |
| Protective gloves | Fluoroelastomer (FKM) | 6 (> 480 minutes) | 0.4 | |

| Eye protection: | | |
|----------------------------------|------|-----------------|
| Wear eye protection | | |
| Type | Use | Characteristics |
| Safety glasses with side shields | Dust | |

| Skin and body protection: | | |
|-----------------------------------|--|--|
| Wear suitable protective clothing | | |
| Type | | |
| Long sleeved protective clothing | | |

| Respiratory protection: | | |
|--|--|--|
| In case of inadequate ventilation wear respiratory protection. | | |

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|--------------------------------------|
| Physical state | : Solid |
| Appearance | : Crystalline powder. |
| Colour | : White |
| Odour | : Odourless Ammoniacal slight |
| Odour threshold | : No data available |
| pH | : 7.8 – 9.5 (10% aqueous suspension) |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Relative evaporation rate (ether=1) | : No data available |
| Molecular mass | : 126.12 g/mol |
| Melting point | : 354 °C (with vaporization) |
| Freezing point | : Not applicable |
| Boiling point | : > 280 °C Decomposes |
| Flash point | : > 280 °C (closed cup) |
| Auto-ignition temperature | : > 500 °C |
| Decomposition temperature | : > 280 °C |
| Flammability (solid, gas) | : Not flammable |
| Vapour pressure | : < 0.02 kPa (@ 20°C / 68°F) |

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| | |
|---|---|
| Relative vapour density at 20°C | : 4.34 (air = 1) |
| Relative density | : 1.57 (@ 20°C / 68°F) |
| Density | : 1.57 g/cm ³ |
| Solubility | : Slightly soluble. Water: 0.348 g/100ml (@ 20°C / 68°F) |
| Partition coefficient n-octanol/water (Log Pow) | : -1.22 (@ 20°C / 68°F) |
| Viscosity, kinematic | : Not applicable |
| Explosive properties | : Not explosive. |
| Oxidising properties | : Non oxidizing. |
| Explosive limits | : Not applicable |
| Particle size distribution | : Available on request |

9.2. Other information

Other properties : Ignition temperature: ≥ 658 °C / 1216.4 °F.

SECTION 10: Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | : The product is non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | : Stable under normal conditions. |
| Possibility of hazardous reactions | : No dangerous reactions known under normal conditions of use. |
| Conditions to avoid | : Keep away from heat. Keep away from any flames or sparking source. |
| Incompatible materials | : Oxidizing agents. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition can lead to the release of irritating gases and vapours. Thermal decomposition generates: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Amines, Ammonia, Hydrogen cyanide > 600°C / 1112°F. |
| Hardening time: | : No additional information available |

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|-----------------------------|------------------|
| Acute toxicity (oral) | : Not classified |
| Acute toxicity (dermal) | : Not classified |
| Acute toxicity (inhalation) | : Not classified |

| 1,3,5-Triazine-2,4,6-triamine (108-78-1) | |
|--|----------------------------------|
| LD50 oral rat | 3161 mg/kg bodyweight |
| LC50 Inhalation - Rat | > 5.19 mg/l/4h (OECD 403 method) |
| ATE CA (oral) | 3161 mg/kg bodyweight |

Skin corrosion/irritation : Not classified.
pH: 7.8 – 9.5 (10% aqueous suspension)

| 1,3,5-Triazine-2,4,6-triamine (108-78-1) | |
|--|------------------|
| pH | Aqueous solution |

Serious eye damage/irritation : Not classified
pH: 7.8 – 9.5 (10% aqueous suspension)

| 1,3,5-Triazine-2,4,6-triamine (108-78-1) | |
|--|------------------|
| pH | Aqueous solution |

| | |
|-----------------------------------|--------------------------------|
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Suspected of causing cancer. |

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| 1,3,5-Triazine-2,4,6-triamine (108-78-1) | |
|---|--------------------------------------|
| LOAEL, Chronic, oral, rat | 126 mg/kg bw/day |
| IARC group | 2B - Possibly carcinogenic to humans |
| National Toxicity Program (NTP) Status | Evidence of Carcinogenicity |

Reproductive toxicity : Suspected of damaging fertility.

| 1,3,5-Triazine-2,4,6-triamine (108-78-1) | |
|---|--------------------------------|
| NOAEL (animal/male, F0/P) | 268 mg/kg bodyweight Fertility |
| NOAEL (animal/male, F1) | 89 mg/kg bodyweight Fertility |
| Target organ(s) | testis, Sperm |

STOT-single exposure : Not classified

STOT-repeated exposure : May cause damage to organs (urinary tract) through prolonged or repeated exposure.

| 1,3,5-Triazine-2,4,6-triamine (108-78-1) | |
|---|--|
| NOAEL (oral, rat, 90 days) | 72 mg/kg bodyweight/day |
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |
| Target organ(s) | urinary bladder, kidneys |

Aspiration hazard : Not classified

| Melamine (108-78-1) | |
|----------------------------|----------------|
| Viscosity, kinematic | Not applicable |

Symptoms/effects after inhalation : Dust from this product may cause irritation to the respiratory tract.

Symptoms/effects after eye contact : Dust from this product may cause eye irritation.

Chronic symptoms : May damage fertility. Suspected carcinogen. May cause damage to organs (urinary tract) through prolonged or repeated exposure.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

| Melamine (108-78-1) | |
|---|-----------------------|
| Partition coefficient n-octanol/water (Log Kow) | -1.22 (@ 20°C / 68°F) |

| 1,3,5-Triazine-2,4,6-triamine (108-78-1) | |
|---|--|
| LC50 fish 1 | > 3000 mg/l Oncorhynchus mykiss |
| EC50 Daphnia 1 | 200 mg/l Daphnia magna |
| EC50 96h - Algae [1] | 325 mg/l Pseudokirchneriella subcapitata |
| NOEC chronic fish | ≥ 5.1 mg/l Pimephales promelas (36d), OECD Guideline 210 |
| NOEC chronic crustacea | ≥ 11 mg/l (21d) Daphnia magna |
| NOEC chronic algae | 98 mg/l Species: Pseudokirchneriella subcapitata |
| NOEC, microorganisms | 2000 mg/l |

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12.2. Persistence and degradability

Melamine (108-78-1)

Persistence and degradability Not rapidly degradable

1,3,5-Triazine-2,4,6-triamine (108-78-1)

Persistence and degradability Not readily biodegradable, Not inherently biodegradable.

12.3. Bioaccumulative potential

Melamine (108-78-1)

Partition coefficient n-octanol/water (Log Kow) -1.22 (@ 20°C / 68°F)

1,3,5-Triazine-2,4,6-triamine (108-78-1)

Bioaccumulative potential Bioaccumulation unlikely.

BCF fish 1 < 3.8 l/kg

12.4. Mobility in soil

1,3,5-Triazine-2,4,6-triamine (108-78-1)

Organic Carbon Normalized Adsorption Coefficient (Log Koc) 2.3

12.5. Other adverse effects

Ozone : Not classified

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Dispose in a safe manner in accordance with local/national regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Recycling is preferred to disposal or incineration. Do not re-use empty containers without proper cleaning or reconditioning. Avoid release to the environment.

SECTION 14: Transport information

In accordance with Transportation of Dangerous Goods / Department of Transport / IMDG / IATA

| TDG | DOT | IMDG | IATA |
|---|---------------|---------------|---------------|
| 14.1. UN number | | | |
| Not regulated for transport | | | |
| 14.2. Proper Shipping Name | | | |
| Not regulated | Not regulated | Not regulated | Not regulated |
| 14.3. Transport hazard class(es) | | | |
| Not regulated | Not regulated | Not regulated | Not regulated |
| 14.4. Packing group | | | |
| Not regulated | Not regulated | Not regulated | Not regulated |

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| TDG | DOT | IMDG | IATA |
|--|---------------|---------------|---------------|
| 14.5. Environmental hazards | | | |
| Not regulated | Not regulated | Not regulated | Not regulated |
| No supplementary information available | | | |

14.6. Special precautions for user

TDG

Not regulated

DOT

Not regulated

IMDG

Not regulated

IATA

Not regulated

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

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

1,3,5-Triazine-2,4,6-triamine (108-78-1)

Listed on the Canadian DSL (Domestic Substances List)

15.2. International regulations

1,3,5-Triazine-2,4,6-triamine (108-78-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

SECTION 16: Other information

Revision date : 20/02/2024

Supersedes : 07/08/2023

Indication of changes:

Details of the supplier of the safety data sheet. Physical and chemical properties.

Training advice : Training staff on good practice. Ensure staff are informed of and trained on the nature of exposure and basic actions to minimise exposure.

Abbreviations and acronyms:

| | |
|------|---|
| PBT | Persistent Bioaccumulative Toxic |
| vPvB | Very Persistent and Very Bioaccumulative |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |

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| Abbreviations and acronyms: | |
|-----------------------------|---|
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ICAO | International Civil Aviation Organization |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| DNEL | Derived-No Effect Level |
| PNEC | Predicted No-Effect Concentration |
| EC50 | Median effective concentration |
| NOEC | No-Observed Effect Concentration |
| BCF | Bioconcentration factor |
| IMDG | International Maritime Dangerous Goods |
| IATA | International Air Transport Association |
| DMEL | Derived Minimal Effect level |
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| IARC | International Agency for Research on Cancer |
| EC-No. | European Community number |
| EN | European Standard |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| OECD | Organisation for Economic Co-operation and Development |
| STP | Sewage treatment plant |
| CAS-No. | Chemical Abstract Service number |
| NOAEL | No-Observed Adverse Effect Level |

Safety Data Sheet (SDS), Canada

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. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.