



SAFETY DATA SHEET

Revision Date September 25, 2017
Date of the previous version December 2, 2016

Version 3
US/CA

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Melamine	
Trade name	MelaminebyOCI™ GPH MelaminebyOCI™ GPH LD MelaminebyOCI™ SLP Melafine®	
Chemical Name	1,3,5-Triazine-2,4,6-triamine	
CAS-No	108-78-1	
Synonyms	Cyanuramide; Cyanurotriamide; 2,4,6-Triamino-s-triazine	
Formula	C ₃ H ₆ N ₆	
Recommended Use	Industrial application: White crystalline powder, used in high performance products like wood-based panels, laminates, coatings, molding powders, concrete plasticizers and flame retardants.	
Uses advised against	Addition to food or feed products.	
Details of the supplier of the safety data sheet		
OCI Nitrogen BV Mijnweg 1 P.O. Box 601 6160 AP Geleen, The Netherlands Tel: +31 (0) 46 7020111 www.ocinitrogen.com	OCI Melamine Americas, Inc. C/O Advanced Louisiana Logistics 501 Louisiana Avenue, Suite 201 Baton Rouge, LA 70802, USA Tel: +1 (225) 685 30 20 / 685 30 37 Fax: +1 (225) 685 30 03	OCI Trading Shanghai 17N, Feizhou Guoji Building No. 899 Lingling Road Shanghai 200030, China Tel: +86 (0)21 64415441 Fax: +86 (0)21 64415440.
Emergency telephone	Chemtrec +1-800-424-9300 Manufacturer: Alert & Care Centre Chemelot (Geleen, The Netherlands) +31 46 4765555 (24/7)	

2. HAZARDS IDENTIFICATION

OSHA Regulatory Status	This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Hazard Statements	Not applicable.
Precautionary Statements	Not applicable.
Main Symptoms	Inhalation of dust in high concentration may cause irritation of respiratory system. Dust contact with the eyes can lead to mechanical irritation.
Environmental hazard	Contains no substances known to be hazardous for the environment. See Section 12 for additional Ecological Information.
Physical State @20°C	Solid
Appearance	Powder (Crystalline)
Color	White
Odor	Odorless / Ammoniacal
Materials to Avoid	Oxidizing agents.
Hazards Not Otherwise Classified (HNOC)	None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
2,4,6-Triamino-1,3,5-triazine	108-78-1	100

4. FIRST AID MEASURES

General advice	No hazards which require special first aid measures.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention immediately if symptoms occur.
Inhalation	Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately if symptoms occur.
Notes to physician	Treat symptomatically. Hazardous decomposition products formed under fire conditions: Effects of contact or inhalation may be delayed.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

5. FIRE FIGHTING MEASURES

Flammable Properties	Not flammable.
Flash point	Closed cup >280 °C / >536 °F
Autoignition temperature	>500 °C / >932 °F
Suitable Extinguishing Media	The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	None known.
Special Hazard	Thermal decomposition can lead to release of irritating gases and vapors: Carbon oxides, Nitrogen oxides (NO _x), Amines, Ammonia, Hydrogen cyanide (Above 600°C).
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Evacuate non-essential personnel. Do not touch or walk through spilled material. Avoid contact with skin, eyes and clothing. Do not breathe dust. For personal protection see section 8.
Environmental precautions	Avoid release to the environment. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.
Methods for cleaning up	Avoid dust formation. Pick up and transfer to properly labeled containers. Dispose of contents/container in accordance with local regulations.

7. HANDLING AND STORAGE

Handling	Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Do not breathe dust. Remove and wash contaminated clothing before re-use. Keep away from fire. Avoid dust formation in confined areas. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.
Storage	Store in accordance with local regulations. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep away from direct sunlight, Oxidizing agents. Recommendation(s): (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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines	Ingredients with workplace control parameters.
Other Exposure Guidelines	AIHA WEEL (United States, 2013) TWA 8h: 10 mg/m ³ , inhalable 5 mg/m ³ , respirable
Appropriate engineering controls	Ensure adequate ventilation, especially in confined areas.
Personal Protective Equipment	
Eye protection	Tightly fitting safety goggles.
Hand Protection	Protective gloves: Neoprene gloves, PVC, (4-8 hours Break through time) (EN 374).
Skin and body protection	Long sleeved clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
Recommended filter type	P2
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Ensure that eyewash stations and safety showers are close to the workstation location.
Environmental Exposure Controls	The product should not be allowed to enter drains, water courses or the soil.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State @20°C	Solid
Appearance	Powder (Crystalline)
Color	White
Odor	Odorless / Ammoniacal
pH	7.8 - 9.5 Conc. (% w/w): 10% (as aqueous solution)
Melting/freezing point	354 °C / 669.2 °F (with vaporization)
Boiling point/boiling range	Decomposes >280 °C / >536 °F
Flash point	Closed cup >280 °C / >536 °F
Evaporation rate	Not applicable
Flammability (solid, gas)	Not flammable
Flammability Limits in Air	Not applicable
Vapor pressure	<0.02 (<15 mm Hg) kPa (@ 20°C)
Vapor density	4.34 (air = 1)
Relative density	1.57 (@20°C / 68°F)
Solubility	
Water solubility	Slightly soluble 0.348 g/100 ml (@20 °C)
Partition Coefficient (n-octanol/water)	log Pow = -1.14
Autoignition temperature	>500 °C / >932 °F
Minimum ignition temperature	658 °C / 1216.4 °F
Decomposition temperature	>280 °C / >536 °F
Viscosity, dynamic	No information available
Explosive properties	Not explosive (On basis of test data)
Oxidizing properties	Not oxidizing
Molecular Weight	126.12 g/mol
Specific Gravity	1.57 g/cm ³

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Materials to Avoid	Oxidizing agents.
Conditions to Avoid	Heat, flames and sparks.
Hazardous Decomposition Products	None under normal use. Thermal decomposition can lead to release of irritating gases and vapors: Carbon monoxide (CO), Carbon dioxide (CO ₂), Nitrogen oxides (NO _x), Amines, Ammonia, Hydrogen cyanide. >600°C.
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Ingestion Based on available data, the classification criteria are not met.
Skin contact Based on available data, the classification criteria are not met.
Inhalation Based on available data, the classification criteria are not met.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
2,4,6-Triamino-1,3,5-triazine	3161 mg/kg bw (Rat)	-	>5190 mg/m ³ air 4h (Rat)

Skin corrosion/irritation No known effect.

Serious eye damage/irritation Dust contact with the eyes can lead to mechanical irritation.

Respiratory or skin sensitisation No known effect.

Germ cell mutagenicity Not known to cause heritable genetic damage.

Carcinogenicity In feeding studies in rats and mice, transitional-cell carcinomas in the urinary bladder were observed only for male rats and only at high doses of melamine in the diet. No carcinomas were found for female rats or for mice of either sex. There is no evidence that melamine can cause cancer to humans.

Reproductive toxicity Not known to cause birth defects or have a deleterious effect on a developing fetus. Not known to adversely affect reproductive functions and organs.

STOT-single exposure No known effect.

STOT-repeated exposure No known effect.

Aspiration hazard No known effect.

Other information Although exposure to high levels of melamine can cause bladder stones in humans there is no evidence for cancer developing as a result of exposure to melamine. Melamine is classified by the International Agency for Research on Cancer (IARC) as Group 2B (possibly carcinogenic to humans).

12. ECOLOGICAL INFORMATION

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

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
2,4,6-Triamino-1,3,5-triazine	EC50: 325 mg/L 96h Pseudokirchneriella subcapitata NOEC: 98 mg/L 96h Pseudokirchneriella subcapitata	LC50: >3000 mg/L 96h Oncorhynchus mykiss NOEC: >=5.1 mg/L 36d Pimephales promelas	EC0: > 100 mg/L 2h Nitrosomonas sp. and Nitrobacter sp.	NOEC: >= 11 mg/L 21d Daphnia magna (reproduction)

Persistence and degradability Not readily biodegradable. Not inherently biodegradable.

Bioaccumulative potential Bioaccumulation is unlikely.

Chemical Name	Log P _{ow}	Bioconcentration factor (BCF)
2,4,6-Triamino-1,3,5-triazine	-1.14	<0.38

Mobility in soil No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

According to: US DOT, IMDG, ICAO/IATA, ADR.

Not regulated.

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL
2,4,6-Triamino-1,3,5-triazine	Listed	Listed (DSL)

Federal Regulations

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA This material, as supplied, does not contain substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

State Regulations

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

No information available.

Other information

No information available.

International Regulations

Canada This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class Non-controlled.

16. OTHER INFORMATION

Revision Date	September 25, 2017
Version	3
Revision Note	New layout. SDS sections updated: 1, 8, 11.
Training Advice	Workers must be trained in the proper use and handling of this product as required under applicable regulations.
Abbreviations/acronyms	ACGIH TLV: American Conference of Governmental Industrial Hygienists - Treshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH: National Institute for Occupational Safety and Health - Immediately Dangerous to Life or Health OSHA: Occupational Safety and Health Administration IARC: International Agency for Research on Cancer NTP: National Toxicity Program SARA: Superfund Amendments and Reauthorization Act ACGIH: American Conference of Governmental Industrial Hygienists CFR: U.S. Code of Federal Regulations ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) DOT: Department of Transport IMDG: International Maritime Dangerous Goods Code IATA: International Air Transport Association ICAO: International Civil Aviation Organization WHMIS: Workplace Hazardous Materials Information System CPR: Controlled Products Regulations
SDS No.	OC00016

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. 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.

End of Safety Data Sheet