



METHANOL HOLDINGS (TRINIDAD) LIMITED

SAFETY DATA SHEET MELAMINE

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product name: Melamine

Product codes(s): Melamine

Synonym(s): 2,4,6-Triamino-1,3,5-triazine; Aero; Cyanuramide; Cyanurotriamide; Cyanurotriamine; Cymel; Isomelamine

REACH Registration Number: This product has been registered according to Regulation (EC) 1907/2006.

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

General use: Used in the manufacture of resins and resin-based laminates, wood-based panels, coatings, molding powders, paints, adhesives, plastics, concrete plasticizers and flame retardants

Uses advised against: No uses advised against

1.3 Details of the supplier and of the safety data sheet

Manufacturer/Distributor

Methanol Holdings (Trinidad) Limited
Atlantic Avenue, Point Lisas Industrial Estate
Point Lisas, Trinidad, West Indies
+1-868-636-2906/9

Non-Emergency Contact

North America: Southern Chemical Corporation +1-281-799-4416
Europe: Helm AG 011-19-40-23750
Trinidad: Methanol Holdings (Trinidad) Limited +1-868-636-2906

1.4 Emergency telephone number

North America Chemtrec: +1-800-424-9300

Europe Giftinformationszentrum Nord: 011-49-551-19240

Trinidad Industrial Plant Services Limited: +1-868-636-1251

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Product definition: Substance

Classification in accordance with 29 CFR 1910 (OSHA HCS) and Regulation (EC) No 1272/2008

GHS Classification: Not a dangerous substance

OSHA HCS Classification: May form combustible dust concentrations in air

2.2 Label Elements

HCS Signal Word: Warning

GHS: No label requirements according to GHS

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

% by Weight	Ingredient	CAS Number	EC Number	Index Number	GHS Classification
>99	Melamine	108-78-1	203-615-4	-----	-----

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

3.2 Mixtures

Not applicable

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product spray or mist causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist, seek medical attention.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, occasionally lifting upper and lower lids. Remove contact lenses, if present after the first 2 minutes and continue rinsing. Obtain immediate medical attention, preferably from an ophthalmologist.

Skin: Flush skin with large amounts of water while removing contaminated clothing, and continue rinsing for at least 15 minutes. Wash affected area with soap and water. Wash contaminated clothing and shoes thoroughly before reuse. If irritation persists, seek prompt medical attention.

Ingestion: Rinse mouth with water if the victim is conscious. Remove dentures, if present. Do not induce vomiting unless directed to do so by medical personnel. Give 2 to 3 cupfuls of milk or water to drink if the victim is conscious, alert and able to swallow. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Get medical attention immediately.



METHANOL HOLDINGS (TRINIDAD) LIMITED

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: May cause eye irritation characterized by redness, pain, tearing and swelling . May cause mechanical irritation and inflammation of the cornea and surrounding tissues.

Skin: May cause skin irritation. Harmful if absorbed through skin. Prolonged and repeated exposure to unprotected skin may cause dermatitis.

Inhalation: Inhalation of dust may be Irritating to mucous membranes and to the respiratory system. Inhalation of decomposition products may cause severe injury or death. Harmful if inhaled.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting, abdominal pain and diarrhea. May be harmful if swallowed.

Chronic: Other symptoms of prolonged and repeated exposure include urinary bladder stones, diuresis and crystalluria. Dermatitis has been reported. Kidney injury may occur. This substance has caused adverse reproductive and fetal effects in laboratory animals. Refer to Section 11.2.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Doctor and Hospital Personnel: Treat symptomatically and supportively

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishable media

Suitable methods of extinction: Use media such as water fog, water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable methods of extinction: None known

5.2 Special hazards arising from the substance or mixture

Closed containers may explode due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Explosion hazards: This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

5.3 Advice for firefighters

Responders should stay upwind. Full protective equipment including self-contained breathing apparatus should be used (HAZMAT suits). Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. If possible, firefighters should control runoff water to prevent environmental contamination.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate protective clothing designated in Section 8. Ventilate the area. Remove all sources of ignition. No smoking. Evacuate non-essential personnel from the hazard area.

6.3 Methods and materials for containment and cleaning up

Approach spill from upwind direction. Avoid dust generation and prevent wind dispersal. Cover drains and contain spill. Do not flush spilled material to the sewer. Collect product and place in an approved container for proper disposal. Observe possible material restrictions (Sections 7.2 and 10.5). Do not allow material or runoff from rinsing contaminated areas to enter storm drains and ditches which lead to waterways. Dispose of waste in accordance with national and local regulations. Clean contaminated areas with soap and water.

6.4 Reference to other sections

For indications about waste treatment, see Section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle in a manner that minimizes dust generation. Do not get in eyes or on skin and clothing. Avoid inhalation of dust. Keep away from sources of ignition, No smoking. Wear all appropriate protective equipment specified in Section 8. Wash hands thoroughly after handling. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear an appropriate, approved dust mask or respirator.

Advice on protection against fire and explosion

This material in sufficient quantity and reduced particle size is capable of creating a dust explosion. Risk of explosion if heated under confinement.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10.5), food and drink. Transfer only to approved containers having correct labeling. Keep containers tightly closed. Protect container against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent spillage. Containers of this material may be hazardous when empty as they retain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

DO NOT STACK MORE THAN 2 SUPERSACKS HIGH.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.



METHANOL HOLDINGS (TRINIDAD) LIMITED

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure values.

8.2 Exposure controls

Engineering Measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

Eye/face protection: Wear protective chemical goggles and a face shield use. Refer to 29 CFR 1910.133, ANSI Z87.1 or European Standard EN 166.

Hand Protection: Wear gloves recommended by supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

Other protective equipment: Wear protective clothing. Wear protective boots if the situation requires.

Respiratory Protection: Always use an approved dust mask or respirator when dust is generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure controls: Do not empty into drains.

PPE must not be considered a long-term solution to exposure control. PPE usage must be accompanied by employer programs to properly select, maintain, clean fit and use. Consult a competent industrial hygiene resource to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	White powder
Odor	Odorless
Odor Threshold	No data available
Molecular Weight	126.12 g/mol
Chemical Formula	C ₃ H ₆ N ₆
pH	7 - 8 @ 20 °C (concentration 3.2 g/l)
Freezing/Melting Point, Range	>300 °C (572 °F)
Boiling Point	Sublimates at temperatures above 350 °C (662 °F)
Evaporation Rate	Not applicable
Flammability (solid, gas)	No data available
Flash Point	300 °C (572 °F), closed cup
Autoignition Temperature	>600 °C (1,112 °F)
Decomposition Temperature	>300 °C (572 °F)
Lower Explosive Limit (LEL)	No data available
Upper Explosive Limit (UEL)	No data available
Vapor Pressure	67 mbar @ 315 °C
Vapor Density	Not determined
Density	1.57 g/cc (0.058 lb/in ³) @ 20 °C
Bulk Density	550 - 750 kg/m ³ (34.34 - 46.82 lb/ft ³)
Solubility in Water	~3 - 5 g/l @ 20 °C
Partition Coefficient: n-octanol/water	log Pow = -1.14
Viscosity	Not applicable
Volatiles by Volume @ 21° C	Not determined

9.2 Other data

No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No hazardous reactions expected when handled and stored as recommended.



METHANOL HOLDINGS (TRINIDAD) LIMITED

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

When heated to decomposition cyanide fumes are released.

Hazardous polymerization will not occur.

10.4 Conditions to avoid

Dust generation, excess heat, hot surfaces, temperatures above 300 °C

10.5 Incompatible materials

Avoid contact with strong oxidizing agents, strong acids.

10.6 Hazardous decomposition products

Thermal decomposition products include oxides of carbon, oxides of nitrogen, ammonia and cyanide.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral Toxicity

LD₅₀, mouse: 3,296 mg/kg

LD₅₀, rat: 3,161 mg/kg

Acute inhalation toxicity

LC₅₀, rat: 3,248 mg/m³

Acute dermal toxicity

LD₅₀, rabbit: >1,000 g/kg

Skin irritation

May cause skin irritation.

Eye irritation

May cause eye irritation.

Sensitization

No data available

Genotoxicity

No data available

Mutagenicity

No data available

Specific organ toxicity - single exposure

No data available

Specific organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Further information

Melamine (CAS #108-78-1): IARC, Group 3 carcinogen: *Not classifiable as to its carcinogenicity to humans*. Not listed as a carcinogen by ACGIH, OSHA or NTP. No specific data is available regarding the mutagenicity or teratogenicity of this material, nor is there any data that indicates it causes adverse developmental or fertility effects in humans. This substance has caused adverse reproductive and fetal effects in laboratory animals. Indications of possible carcinogenic effects in animal studies are available.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

Acute and prolonged toxicity to fish: LC₅₀ - Poecillia reticulata (Guppy), 96 h: >3,000 mg/m³

Toxicity to aquatic invertebrates: EC₅₀ - Daphnia magna (Water flea), 48 h: 2,000 mg/m³

Toxicity to aquatic plants: EC₅₀ - Scenedesmus pannonicus (Freshwater algae), 4 d: 940 g/m³

Toxicity to micro-organisms: EC₅₀ - Pseudomonas putida (Bacteria), 30 min: >10,000 g/m³

12.2 Persistence and degradability

No biodegradation using a standard 5 day BOD test was observed, suggesting that biodegradation may not be an important environmental fate process. Adapted waste water treatment plants can degrade melamine effectively.

12.3 Bioaccumulation potential

Melamine is not expected to bioaccumulate.

12.4 Mobility in soil

Mobility in soil is expected to be very high based.



METHANOL HOLDINGS (TRINIDAD) LIMITED

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

Additional ecological information

Do not allow material to run into surface waters, waste water or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Methods of disposal: The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste: The classification of this product may meet the criteria for a hazardous waste.

SECTION 14 - TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

NO REGULATED FOR TRANSPORT

SECTION 15 - REGULATORY INFORMATION

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

U. S. Federal Regulations

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

TSCA Status: All components of this product are listed on the TSCA Inventory. It is not subject to TSCA 12(b) Export Notification.

Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories: Acute Health Hazard

SARA 313 Information: None of the chemicals in this product exceed the threshold (de minimis) reporting levels established by Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance: None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): This product contains no CERCLA reportable substances.

Clean Air Act (CAA)

This product does not contain any Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).

This product does not contain any Class 1 Ozone depleters.

This product does not contain any Class 2 Ozone depleters.

Clean Water Act (CWA)

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986:

This product contains no chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm.

Other U.S. State Inventories:

Melamine (CAS #108-78-1) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: MA, PA.

Canada

WHMIS Hazard Symbol and Classification: Uncontrolled product according to WHMIS classification criteria

Canadian National Pollutant Release Inventory (NPRI): None of the ingredients are listed on the NPRI.

European Economic Community

Classification (67/548/EEC to 1999/45/EC)

Not a hazardous substance according to EC directives 67/458/EEC or 1999/45/EC.

WGK, Germany (Water danger/protection): 1

Global Chemical Inventory Lists

Country	Inventory Name	Inventory Listing*
Canada:	Domestic Substance List (DSL)	Yes
Canada:	Non-Domestic Substance List (NDSL)	No
Europe:	Inventory of New and Existing Chemicals (EINECS)	Yes
United States:	Toxic Substance Control Act (TSCA)	Yes
Australia:	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand:	New Zealand Inventory of Chemicals (NZIoC)	Yes
China:	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan:	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea:	Existing Chemicals List (ECL)	Yes
Philippines:	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*Yes - All components of this product are in compliance with the inventory requirements administered by the governing country.
No - One or more components of this product are not on the inventory and are not exempt from listing.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

Health	* 2
Flammability	1
Physical Hazard	0
Personal Protection	F

HMIS and NFPA Hazard Rating Legend

* = Chronic Health Hazard 2 = MODERATE
0 = INSIGNIFICANT 3 = HIGH
1 = SLIGHT 4 = EXTREME



National Fire Protection Association (NFPA)

Flammability



The information and recommendations herein are taken from data contained in independent industry-recognized references and are believed to be accurate and represent the best information currently available to us. Methanol Holdings (Trinidad) Limited makes no representation or warranties, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Users should conduct their own investigations to determine the suitability of the information to their particular purpose. Accordingly, Methanol Holdings (Trinidad) Limited will not be responsible for loss or damages resulting from use of or reliance upon this information.

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