

SAFETY DATA SHEET

1. Identification

Product identifier: METHENAMINE

Other means of identification

Product No.: 5180, N145

Recommended use and restriction on use

Recommended use: Not determined.

Restrictions on use: Not determined.

Details of the supplier of the safety data sheet

Avantor Performance Materials, LLC.
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Center Valley, PA 18034

Telephone:

Customer Service: 855-282-6867

Fax:

610-573-2610

Contact Person:

Environmental Health & Safety

E-mail:

info@avantormaterials.com

Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable solid	Category 2
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Health Hazards

Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Toxic to reproduction	Category 1A

Unknown toxicity - Health

Acute toxicity, oral	100 %
Acute toxicity, dermal	100 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	0 %
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Chronic hazards to the aquatic environment 100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Flammable solid.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May damage fertility or the unborn child.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Response: IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. IF exposed or concerned: Call a POISON CENTER/doctor. Collect spillage.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	Content in percent (%)*
METHENAMINE		100-97-0	99 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:	Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand.
Ingestion:	Rinse mouth thoroughly. Call a POISON CENTER/doctor if you feel unwell.
Inhalation:	Move to fresh air. Get medical attention if symptoms persist.
Skin Contact:	Wash skin thoroughly with soap and water. If skin irritation or an allergic skin reaction develops, get medical attention. Wash contaminated clothing before reuse.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.

Most important symptoms/effects, acute and delayed

Symptoms:	May cause allergic skin reaction. May cause irritation to skin, eyes, and respiratory tract.
Hazards:	None known.

Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically. Symptoms may be delayed.
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5. Fire-fighting measures

General Fire Hazards:	Flammable solid. In case of fire and/or explosion do not breathe fumes.
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical:	May ignite at high temperature. Can form dust clouds that may explode on contact with flames, heat and oxidizers.
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Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Keep upwind. Use personal protective equipment. Ventilate closed spaces before entering them. See Section 8 of the SDS for Personal Protective Equipment.
Methods and material for containment and cleaning up:	Take precautionary measures against static discharges. Stop leak if possible without any risk. Use non-sparking tools. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
Notification Procedures:	Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:	Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash hands thoroughly after handling. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Avoid heat, sparks, open flames and other ignition sources.
Conditions for safe storage, including any incompatibilities:	Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Keep cool. Store in a well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
METHENAMINE	STEL	0,35 ppm 2 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin Protection	
Hand Protection:	Chemical resistant gloves
Other:	Wear suitable protective clothing.

Respiratory Protection:	In case of inadequate ventilation use suitable respirator.
Hygiene measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Provide eyewash station and safety shower.

9. Physical and chemical properties

Appearance

Physical state:	Solid
Form:	Crystals or powder.
Color:	White
Odor:	Odorless
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	280 °C
Initial boiling point and boiling range:	No data available.
Flash Point:	250 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	< 0,01 kPa (25 °C)
Vapor density:	No data available.
Density:	1,33 g/ml (-5 °C)
Relative density:	1,331
Solubility(ies)	
Solubility in water:	853 g/l
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	200 - 800 °C
Viscosity:	No data available.
Other information	
Molecular weight:	140,19 g/mol (C ₆ H ₁₂ N ₄)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Heat, sparks, flames. Contact with incompatible materials.

Incompatible Materials:	Acids. Strong oxidizing agents. Inorganic peroxides. Peroxides. Metals.
Hazardous Decomposition Products:	Thermal decomposition may produce oxides of carbon and nitrogen. Formaldehyde.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	May be harmful if inhaled. May cause respiratory allergy.
Skin Contact:	May cause irritation. May cause an allergic skin reaction.
Eye contact:	Dust in the eyes will cause irritation.
Ingestion:	May be harmful if swallowed. May cause irritation of the gastrointestinal tract.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product:	No data available.
Dermal Product:	No data available.
Inhalation Product:	No data available.

Repeated dose toxicity Product:	No data available.
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Skin Corrosion/Irritation Product:	May cause skin irritation. May cause an allergic skin reaction.
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Serious Eye Damage/Eye Irritation Product:	May cause temporary eye irritation.
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Respiratory or Skin Sensitization Product:	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.
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Carcinogenicity Product:	This substance has no evidence of carcinogenic properties.
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IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

ACGIH Carcinogen List:
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity

Product: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: There are no data on the degradability of this product.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)
Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: The product is water soluble and may spread in water systems.

Other adverse effects: No data available.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

TDG

UN Number:	UN 1328
UN Proper Shipping Name:	HEXAMETHYLENETETRAMINE
Transport Hazard Class(es)	
Class:	4.1
Label(s):	4.1
Packing Group:	III
Marine Pollutant:	No
Special precautions for user:	Not determined.

IMDG

UN Number:	UN 1328
UN Proper Shipping Name:	HEXAMETHYLENETETRAMINE
Transport Hazard Class(es)	
Class:	4.1
Label(s):	4.1
EmS No.:	F-A, S-G
Packing Group:	III
Marine Pollutant:	No
Special precautions for user:	Not determined.

IATA

UN Number:	UN 1328
UN Proper Shipping Name:	Hexamethylenetetramine
Transport Hazard Class(es):	
Class:	4.1
Label(s):	4.1
Packing Group:	III
Marine Pollutant:	No
Special precautions for user:	Not determined.
Cargo aircraft only:	Allowed.

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

15. Regulatory information

Canada Federal Regulations

List of Toxic Substances (CEPA, Schedule 1)

Not Regulated

Export Control List (CEPA 1999, Schedule 3)

Not Regulated

National Pollutant Release Inventory (NPRI)

Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)

Not Regulated

Greenhouse Gases

Not Regulated

Controlled Drugs and Substances Act

Not Regulated

Precursor Control Regulations

Not Regulated

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision
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Revision Date:	16.05.2018
Version #:	1.1
Further Information:	No data available.

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