

## SAFETY DATA SHEET

Creation Date 24-Nov-2010

Revision Date 15-Jul-2022

Revision Number 6

### 1. Identification

**Product Name** 1,1,4,7,7-Pentamethyldiethylenetriamine

**Cat No. :** AC416950000; AC416950250; AC416951000; AC416955000

**CAS No** 3030-47-5

**Synonyms** PMDT; N,N,N',N',N''-Pentamethyldiethylenetriamine.; 2,5,8-Trimethyl-2,5,8-Triazanonane

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

##### **Emergency Telephone Number**

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### **Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 3
Acute Inhalation Toxicity - Vapors	Category 3
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Combustible liquid  
 Harmful if swallowed  
 Causes severe skin burns and eye damage  
 May cause respiratory irritation  
 Toxic in contact with skin or if inhaled



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep cool

#### Response

Immediately call a POISON CENTER or doctor/physician

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

#### Skin

Wash contaminated clothing before reuse  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

#### Ingestion

Rinse mouth  
 Do NOT induce vomiting

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Storage

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Harmful to aquatic life with long lasting effects

## 3. Composition/Information on Ingredients

Component	CAS No	Weight %
N-[2-(Dimethylamino)ethyl]-N,N'.N'-trimethyl-1,2-ethanediamine	3030-47-5	<=100

## 4. First-aid measures

#### General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

	medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	Causes burns by all exposure routes. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting; Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Chemical foam. Water mist may be used to cool closed containers. CO <sub>2</sub> , dry chemical, dry sand, alcohol-resistant foam.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	72 °C / 161.6 °F
<b>Method -</b>	CC (closed cup)
<b>Autoignition Temperature</b>	155 °C / 311 °F
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Combustible material. Containers may explode when heated.

### Hazardous Combustion Products

Nitrogen oxides (NO<sub>x</sub>). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

### 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. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

**Health**  
3

**Flammability**  
2

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.
<b>Environmental Precautions</b>	Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

**Methods for Containment and Clean Up** Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition.

## 7. Handling and storage

**Handling** Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

**Storage.** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Corrosives area. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents. Strong acids.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>Odor</b>	Rotten-egg like
<b>Odor Threshold</b>	No information available
<b>pH</b>	Not applicable
<b>Melting Point/Range</b>	18 °C / 64.4 °F
<b>Boiling Point/Range</b>	85 °C / 185 °F @ 760 mmHg
<b>Flash Point</b>	72 °C / 161.6 °F
<b>Method -</b>	CC (closed cup)
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid,gas)</b>	Not applicable
<b>Flammability or explosive limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Vapor Pressure</b>	0.3 mbar @ 20°C
<b>Vapor Density</b>	5.98
<b>Specific Gravity</b>	0.829
<b>Solubility</b>	Soluble in water
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	155 °C / 311 °F
<b>Decomposition Temperature</b>	No information available

Viscosity	1.52 mPa.s @ 20°C
Molecular Formula	C <sub>9</sub> H <sub>23</sub> N <sub>3</sub>
Molecular Weight	173.3

## 10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under recommended storage conditions.
Conditions to Avoid	Keep away from open flames, hot surfaces and sources of ignition. Incompatible products.
Incompatible Materials	Strong oxidizing agents, Strong acids
Hazardous Decomposition Products	Nitrogen oxides (NO <sub>x</sub> ), Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
Hazardous Polymerization	No information available.
Hazardous Reactions	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
N-[2-(Dimethylamino)ethyl]-N,N',N'-trimethyl-1,2-ethanediamine	LD50 = 1330 mg/kg bw (Rat)	LD50 200 - 1000 mg/kg ( Rabbit )	LC50 = 290 ppm (2.056 mg/l) vapours

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation	No information available
Sensitization	No information available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
N-[2-(Dimethylamino)ethyl]-N,N',N'-trimethyl-1,2-ethanediamine	3030-47-5	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system  
**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
N-[2-(Dimethylamino)ethyl]-N,N'.N'-trimethyl-1,2-ethane diamine	Desmodesmus subspicatus ErC50 (72 h): 78.3 mg/L test mat. (nominal)	LC50: = 157 mg/L, 96h static (Oncorhynchus mykiss)	Not listed	Daphnia magna EC50 (48 h): 54.9 mg/L test mat. (nominal)

**Persistence and Degradability** Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its volatility.

Component	log Pow
N-[2-(Dimethylamino)ethyl]-N,N'.N'-trimethyl-1,2-ethanediamine	0.07

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN2922  
 Proper Shipping Name Corrosive liquid, toxic, n.o.s.  
 Technical Name (1,1,4,7,7-PENTAMETHYLDIETHYLENE- TRIAMINE)  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group II

### TDG

UN-No UN2922  
 Proper Shipping Name CORROSIVE LIQUIDS, TOXIC, N.O.S.  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group II

### IATA

UN-No UN2922  
 Proper Shipping Name Corrosive liquid, toxic, n.o.s.  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group II

### IMDG/IMO

UN-No UN2922  
 Proper Shipping Name Corrosive liquid, toxic, n.o.s.  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group II

## 15. Regulatory information

### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification -	TSCA - EPA Regulatory
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			Active-Inactive	Flags
N-[2-(Dimethylamino)ethyl]-N,N'.N'-trimethyl-1,2-ethanediamine	3030-47-5	X	ACTIVE	-

**Legend:**

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)**

Not applicable

**TSCA 12(b)** - Notices of Export

Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
N-[2-(Dimethylamino)ethyl]-N,N'.N'-trimethyl-1,2-ethanediamine	3030-47-5	X	-	221-201-1	X	X	X	X	X	KE-11153

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

Not applicable

**SARA 311/312 Hazard Categories**

See section 2 for more information

**CWA (Clean Water Act)**

Not applicable

**Clean Air Act**

Not applicable

**OSHA** - Occupational Safety and Health Administration

Not applicable

**CERCLA**

Not applicable

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations****Mexico - Grade**

No information available

**Authorisation/Restrictions according to EU REACH**

Component	CAS No	REACH (1907/2006) -	REACH (1907/2006) -	REACH Regulation (EC
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		Annex XIV - Substances Subject to Authorization	Annex XVII - Restrictions on Certain Dangerous Substances	1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
N-[2-(Dimethylamino)ethyl]-N,N'.N'-trimethyl-1,2-ethanediamine	3030-47-5	-	Use restricted. See item 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
N-[2-(Dimethylamino)ethyl]-N,N'.N'-trimethyl-1,2-ethanediamine	3030-47-5	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
N-[2-(Dimethylamino)ethyl]-N,N'.N'-trimethyl-1,2-ethanediamine	3030-47-5	50 tonne	200 tonne	Not applicable	Not applicable

## 16. Other information

#### Prepared By

Regulatory Affairs  
Thermo Fisher Scientific  
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#### Creation Date

24-Nov-2010

#### Revision Date

15-Jul-2022

#### Print Date

15-Jul-2022

#### Revision Summary

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

#### 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 SDS**