

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** TRIETHANOLAMINE

**Other means of identification**

**Synonyms:** 2,2,2-Nitrilotriethanol, TEA  
**Product No.:** 1908, 9468, 32106

**Recommended use and restriction on use**

**Recommended use:** Not available.  
**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034  
**Telephone:**  
**Customer Service:** 855-282-6867  
**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151  
Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

Not classified

**Label elements**

**Hazard symbol:** No symbol  
**Signal word:** No signal word.  
**Hazard statement:** Not applicable

**Precautionary statement** Not applicable

**Other hazards which do not result in GHS classification:**

None.

## 3. Composition/information on ingredients

**Substances**

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
TRIETHANOLAMINE		102-71-6	99 - 100%

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

#### 4. First-aid measures

<b>General information:</b>	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
<b>Ingestion:</b>	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Inhalation:</b>	Move to fresh air. Get medical attention if symptoms persist.
<b>Skin contact:</b>	Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.
<b>Eye contact:</b>	Flush thoroughly with water. If irritation occurs, get medical assistance.

#### Most important symptoms/effects, acute and delayed

**Symptoms:** May cause irritation to skin, eyes, and respiratory tract.

#### Indication of immediate medical attention and special treatment needed

**Treatment:** Treat symptomatically.

#### 5. Fire-fighting measures

**General fire hazards:** In case of fire and/or explosion do not breathe fumes.

#### Suitable (and unsuitable) extinguishing media

**Suitable extinguishing media:** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media:** Water.

**Specific hazards arising from the chemical:** May ignite at high temperature.

#### Special protective equipment and precautions for firefighters

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**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:** Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

**Methods and material for containment and cleaning up:** Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

**Notification Procedures:** Inform authorities if large amounts are involved. Prevent runoff from entering drains, sewers, or streams.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling:** Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapor. Wash hands thoroughly after handling.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Store in a cool, dry place. Store in a well-ventilated place.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
TRIETHANOLAMINE	TWA	5 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (2011)
	ST ESL	50 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	AN ESL	5 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	TWA PEL	5 mg/m <sup>3</sup>	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 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.

**Eye/face protection:** Use eye protection.

#### Skin protection

**Hand protection:** Wear protective gloves.

**Other:** Wear suitable protective clothing.

**Respiratory protection:** In case of inadequate ventilation use suitable respirator.

**Hygiene measures:** Provide eyewash station and safety shower. 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.

## 9. Physical and chemical properties

## Appearance

<b>Physical state:</b>	Liquid
<b>Form:</b>	Viscous liquid
<b>Color:</b>	Colorless to pale yellow
<b>Odor:</b>	Slight ammonia odor
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	10.5 0.1 N Aqueous solution
<b>Melting point/freezing point:</b>	20.5 °C
<b>Initial boiling point and boiling range:</b>	335 °C
<b>Flash Point:</b>	179 °C (Closed Cup)
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	< 0.01 kPa (25 °C)
<b>Vapor density:</b>	5.1
<b>Relative density:</b>	1.13 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Completely Soluble
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	-1.00
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.
<b>Other information</b>	
<b>Molecular weight:</b>	149.19 g/mol (C6H15NO3)

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Heat. Keep away from sources of ignition - No smoking.
<b>Incompatible materials:</b>	Acids. Copper. Copper alloys. Strong oxidizing agents. Galvanized iron.
<b>Hazardous decomposition products:</b>	Thermal decomposition may produce oxides of carbon and nitrogen.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion:</b>	May cause irritation of the gastrointestinal tract.
<b>Inhalation:</b>	Spray mists may cause respiratory tract irritation.
<b>Skin contact:</b>	May cause irritation.

**Eye contact:** May irritate eyes.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

##### Oral

**Product:** LD 50 (Rat): 8.0 g/kg

##### Dermal

**Product:** LD 50 (Rabbit): > 20,000 mg/kg

##### Inhalation

**Product:** No data available.

##### Repeated dose toxicity

**Product:** No data available.

##### Skin corrosion/irritation

**Product:** May cause skin irritation.

##### Serious eye damage/eye irritation

**Product:** May irritate eyes.

##### Respiratory or skin sensitization

**Product:** Not a skin sensitizer.

##### Carcinogenicity

**Product:** This substance has no evidence of carcinogenic properties.

##### 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

##### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

##### Germ cell mutagenicity

###### In vitro

**Product:** No mutagenic components identified

###### In vivo

**Product:** No mutagenic components identified

##### Reproductive toxicity

**Product:** No components toxic to reproduction

##### Specific target organ toxicity - single exposure

**Product:** None known.

##### Specific target organ toxicity - repeated exposure

**Product:** None known.

##### Aspiration hazard

**Product:** Not classified

**Other effects:** None known.

## 12. Ecological information

### Ecotoxicity:

#### Acute hazards to the aquatic environment:

##### Fish

**Product:** LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 10,610 - 13,010 mg/l Mortality

##### Aquatic invertebrates

**Product:** LC 50 (Water flea (*Daphnia magna*), 24 h): 1,390 mg/l Mortality  
LC 50 (Brine shrimp (*Artemia salina*), 24 h): 5,600 mg/l Mortality

#### 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:** Log Kow: -1.00

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

**Other adverse effects:** There are no data on the ecotoxicity of this product.

## 13. Disposal considerations

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

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

## 14. Transport information

### DOT

Not regulated.

### IMDG

Not regulated.

### IATA

Not regulated.

## 15. Regulatory information

### US federal regulations

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

##### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

#### CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

#### Superfund amendments and reauthorization act of 1986 (SARA)

##### Hazard categories

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

#### SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

#### SARA 304 Emergency release notification

None present or none present in regulated quantities.

#### SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
TRIETHANOLAMINE	500 lbs

#### SARA 313 (TRI reporting)

None present or none present in regulated quantities.

#### Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

### US state regulations

#### US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

#### US. New Jersey Worker and Community Right-to-Know Act

TRIETHANOLAMINE Listed

#### US. Massachusetts RTK - Substance List

TRIETHANOLAMINE Listed

#### US. Pennsylvania RTK - Hazardous Substances

TRIETHANOLAMINE Listed

#### US. Rhode Island RTK

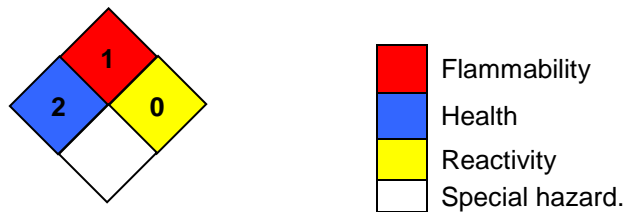
TRIETHANOLAMINE Listed

**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:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

<b>Issue date:</b>	06-20-2014
<b>Revision date:</b>	No data available.
<b>Version #:</b>	1.0
<b>Further information:</b>	No data available.



**Disclaimer:**

THE INFORMATION PRESENTED IN THIS MATERIAL SAFETY DATA SHEET (MSDS/SDS) WAS PREPARED BY TECHNICAL PERSONNEL BASED ON DATA THAT THEY BELIEVE IN THEIR GOOD FAITH JUDGMENT IS ACCURATE. HOWEVER, THE INFORMATION PROVIDED HEREIN IS PROVIDED "AS IS," AND AVANTOR PERFORMANCE MATERIALS MAKES AND GIVES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, AND EXPRESSLY DISCLAIMS ALL WARRANTIES REGARDING SUCH INFORMATION AND THE PRODUCT TO WHICH IT RELATES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION<(>,<)> WARRANTIES OF ACCURACY, COMPLETENESS, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY, STABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE. THIS MSDS/SDS IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PROPERLY TRAINED PERSON USING THIS PRODUCT, AND IS NOT INTENDED TO BE COMPREHENSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, STORAGE, OR DISPOSAL OF THE PRODUCT. INDIVIDUALS RECEIVING THIS MSDS/SDS MUST ALWAYS EXERCISE THEIR OWN INDEPENDENT JUDGMENT IN DETERMINING THE APPROPRIATENESS OF SUCH ISSUES. ACCORDINGLY, AVANTOR PERFORMANCE MATERIALS ASSUMES NO LIABILITY WHATSOEVER FOR THE USE OF OR RELIANCE UPON THIS INFORMATION. NO SUGGESTIONS FOR USE ARE INTENDED AS, AND NOTHING HEREIN SHALL BE CONSTRUED AS, A RECOMMENDATION TO INFRINGE ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, LOCAL, OR FOREIGN LAWS. AVANTOR PERFORMANCE MATERIALS REMINDS YOU THAT IT IS YOUR LEGAL DUTY TO MAKE ALL INFORMATION IN THIS MSDS/SDS AVAILABLE TO YOUR EMPLOYEES.