t-Butylaminoethanol

Version	Revision Date:	SDS Number:	Date of last issue: 09/14/2018
1.4	08/09/2019	150000103723	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0001	

SECTION 1. IDENTIFICATION

Product name : t-Butylaminoethanol

Product code : 51199-00, P5119911, N5119910, P5119901

Manufacturer or supplier's details

Company name of supplier : Eastman Chemical Company

Address : 200 South Wilcox Drive
Kingsport TN 37660-5280

Telephone : (423) 229-2000

Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : Chemical intermediate

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 4

Acute toxicity (Dermal) : Category 3

Skin corrosion : Category 1B

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H227 Combustible liquid.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.

Precautionary Statements :

Prevention:

P260 Do not breathe dusts or mists.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P362 Take off contaminated clothing and wash before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Pure substance

Components

Chemical name	CAS-No.	Concentration (% w/w)
t-butylaminoethanol	4620-70-6	>= 99

SECTION 4. FIRST AID MEASURES

General advice : Show this material safety data sheet to the doctor in attendance.
Call a physician immediately.

If inhaled : Move to fresh air.
If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Wash off immediately with plenty of water for at least 15 minutes.

Wash contaminated clothing before re-use.

In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	Causes severe skin burns and eye damage. Lung edema Pneumonia corrosive effects Health injuries may be delayed. Harmful if swallowed. Toxic in contact with skin. Causes serious eye damage. Causes severe burns.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use water spray to extinguish. Carbon dioxide (CO2) Dry chemical Alcohol-resistant foam
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during fire fighting	:	Flash back possible over considerable distance.
Hazardous combustion products	:	Carbon monoxide Nitrogen oxides (NOx) Ammonia
Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system. Do not allow run-off from fire fighting to enter drains or water courses.
Special protective equipment for fire-fighters	:	Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer-	:	Use personal protective equipment. Local authorities should be advised if significant spillages

gency procedures | | cannot be contained.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Keep product and empty container away from heat and sources of ignition.

Advice on safe handling : Avoid contact with skin, eyes and clothing.
Do not taste or swallow.
Ensure adequate ventilation, especially in confined areas.
Do not breathe vapors or spray mist.
Wash thoroughly after handling.

Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : 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.

Personal protective equipment

Respiratory protection : If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hand protection

Remarks : Rubber gloves Neoprene gloves The exact break through time can be obtained from the protective glove producer and this has to be observed.

Eye protection : Safety glasses with side-shields

Face-shield

Skin and body protection	:	Complete suit protecting against chemicals
Protective measures	:	Ensure that eye flushing systems and safety showers are located close to the working place.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	solid, Molten form
Color	:	white
Odor	:	ammoniacal
Odor Threshold	:	not determined
pH	:	not determined
Melting point/freezing point	:	109 °F / 43 °C
Boiling point/boiling range	:	343 - 349 °F / 173 - 176 °C
Flash point	:	156.0 °F / 68.9 °C Method: Pensky-Martens closed cup
Evaporation rate	:	not determined
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapor pressure	:	< 1 mm Hg (68 °F / 20 °C)
Relative vapor density	:	not determined
Relative density	:	0.87 (68 °F / 20 °C)
Solubility(ies) Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	not determined
Decomposition temperature	:	not determined

Viscosity

Viscosity, dynamic	:	8.32 mPa.s (140 °F / 60 °C)
Viscosity, kinematic	:	not determined
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous decomposition products formed under fire conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong acids and oxidizing agents Peroxides Zinc Copper Aluminum
Hazardous decomposition products	:	Carbon monoxide Carbon dioxide (CO2) Ammonia Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.
Toxic in contact with skin.

Product:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Components:

t-butylaminoethanol:

Acute oral toxicity	:	LD50 (Rat): 1,610 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): 635 mg/kg

Skin corrosion/irritation

Causes severe burns.

Product:

Remarks : No data available

Components:

t-butylaminoethanol:

Result : Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks : No data available

Components:

t-butylaminoethanol:

Result : Corrosive

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Germ cell mutagenicity

Not classified based on available information.

Product:

Germ cell mutagenicity - Assessment : Not mutagenic in Ames Test.

Carcinogenicity

Not classified based on available information.

Product:

Remarks : This information is not available.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility : Remarks: No data available

STOT-single exposure

Not classified based on available information.

Product:

Remarks : No data available

STOT-repeated exposure

Not classified based on available information.

Product:

Remarks : No data available

Aspiration toxicity

Not classified based on available information.

Product:

No data available

Information on likely routes of exposure

Product:

Inhalation : Remarks: None known.

Skin contact : Remarks: Toxic in contact with skin.
Causes skin burns.

Eye contact : Remarks: Causes serious eye damage.

Ingestion : Remarks: Harmful if swallowed.
Causes digestive tract burns.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 2923
Proper shipping name	:	Corrosive solid, toxic, n.o.s. (t-butylaminoethanol)
Class	:	8
Subsidiary risk	:	6.1
Packing group	:	II
Labels	:	Corrosive, Toxic
Packing instruction (cargo aircraft)	:	863
Packing instruction (passenger aircraft)	:	859

IMDG-Code

UN number	:	UN 2923
Proper shipping name	:	CORROSIVE SOLID, TOXIC, N.O.S. (t-butylaminoethanol)
Class	:	8
Subsidiary risk	:	6.1
Packing group	:	II
Labels	:	8 (6.1)
EmS Code	:	F-A, S-B
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 2923
Proper shipping name	:	Corrosive solids, toxic, n.o.s. (t-butylaminoethanol)
Class	:	8
Subsidiary risk	:	6.1
Packing group	:	II
Labels	:	Class 8 - Corrosive, Class 6 - Toxic Substance (Division 6.1)
ERG Code	:	154
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)

SARA 311/312 Hazards : Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

The ingredients of this product are reported in the following inventories:

TSCA	:	On TSCA Inventory
DSL	:	On the inventory, or in compliance with the inventory
AICS	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

TSCA list

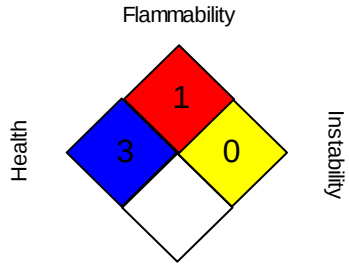
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

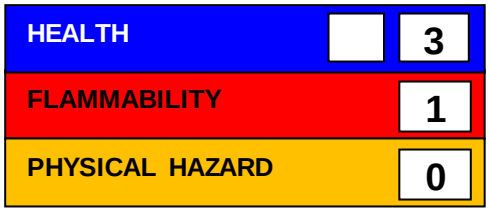
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule;

ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 08/09/2019

The information provided in this Material 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.

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