

TRIMETHYLAMINE

Version number: GHS 1.0

Date of compilation: 2020-06-01

SECTION 1: Identification

1.1 Product identifier

Identification of the substance TRIMETHYLAMINE
CAS number 75-50-3

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

Relevant identified uses Industrial use

1.3 Details of the supplier of the safety data sheet

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1.4 Emergency telephone number

Emergency information service SETIQ 01-800-0021400
CHEMTREC 800-424-9300
Tel. (55) 5559 1588 Cd. de México.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.2	flammable gas	1	Flam. Gas 1	H220
2.6	flammable liquid	1	Flam. Liq. 1	H224
3.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
3.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335
4.1A	hazardous to the aquatic environment - acute hazard	3	Aquatic Acute 3	H402

For full text of abbreviations: see SECTION 16.

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The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of water-courses.

2.2 Label elements

Labeling

- Signal word **Danger**

- Pictograms

GHS02, GHS05,
GHS07



- Hazard statements

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapor.
H302+H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life.

- Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P403+P235	Store in a well-ventilated place. Keep cool.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	TRIMETHYLAMINE
Identifiers	
CAS No	75-50-3
Molecular formula	C ₃ H ₉ N
Molar mass	59.11 g/mol

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SECTION 4: First-aid measures

4.1 Description of first- aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places, which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion, do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools.

- Specific notes/details

Places, which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

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- Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

- Ventilation requirements

Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted. Use local and general ventilation. Ground/bond container and receiving equipment.

- Packaging compatibilities

Only packaging which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)								
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Source
MX	trimethylamine	75-50-3	VLE	5		15		NOM-010-STPS

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted Average

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

In the case of wanting to use the gloves again, clean them before taking off and air them well.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation, wear respiratory protection.

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Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	Colourless
Odor	Like amine

Other safety parameters

pH (value)	This information is not available
Melting point/freezing point	-117.1 °C
Initial boiling point and boiling range	2.9 °C at 1.013 hPa
Flash point	-7 °C closed cup
Evaporation rate	Not determined
Flammability (solid, gas)	Flammable gas in accordance with GHS criteria

Explosive limits

- Lower explosion limit (LEL)	2 vol%
- Upper explosion limit (UEL)	11.6 vol%

Vapor pressure	1.887 bar at 20 °C
Density	2.58 g/l at 0 °C Density of liquid phase at boiling point: 0.6534 g/cm ³ .
Vapor density	2.5535 kg/m ³ at 15°C (1 bar) 2.58 g/l at 0°C and 1013 mbar (std conditions)

Solubility (ies)

- Water solubility	409.6 g/l at 19 °C
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Partition coefficient

- n-octanol/water (log KOW)	0.245 (25 °C) (ECHA)
- Soil organic carbon/water (log KOC)	0.603 (ECHA)
Auto-ignition temperature	190 °C
Decomposition temperature	400 °C
Viscosity	Not relevant (gaseous)
Explosive properties	None
Oxidizing properties	None

9.2 Other information

Temperature class (USA, acc. to NEC 500)	T3A (maximum permissible surface temperature on the equipment: 180°C)
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SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

10.5 Incompatible materials

Oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Harmful if swallowed. Harmful if inhaled.

- Acute toxicity estimate (ATE)

Oral 766 mg/kg
Inhalation: gas 4.500 ppmV/4h

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
LC50	25 mg/l	fish	48 h
EC50	140 mg/l	aquatic invertebrates	48 h
ErC50	150 mg/l	algae	72 h

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12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

n-octanol/water (log KOW)	0.245 (25 °C) (ECHA)
BCF	<1 (ECHA)

12.4 Mobility in soil

Data are not available.

The Organic Carbon normalised adsorption coefficient	0.603 (ECHA)
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12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Only packagings, which are, approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number	1083
14.2 UN proper shipping name	TRIMETHYLAMINE, ANHYDROUS
14.3 Transport hazard class(es)	
Class	2.1 (gases) (flammable)
14.4 Packing group	Not assigned to a packing group
14.5 Environmental hazards	Non-environmentally hazardous acc. to the dangerous goods regulations

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14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport information - National regulations - Additional information (UN RTDG)

UN number	1083
Proper shipping name	TRIMETHYLAMINE, ANHYDROUS
Class	2.1
Danger label(s)	2.1



Special provisions (SP)	- (UN RTDG)
Excepted quantities (EQ)	E0 (UN RTDG)
Limited quantities (LQ)	0 (UN RTDG)

International Maritime Dangerous Goods Code (IMDG)

UN number	1083
Proper shipping name	TRIMETHYLAMINE, ANHYDROUS
Class	2.1
Marine pollutant	-
Danger label(s)	2.1



Special provisions (SP)	-
Excepted quantities (EQ)	E0
Limited quantities (LQ)	0
EmS	F-D, S-U
Stowage category	B

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1083
Proper shipping name	Trimethylamine, anhydrous
Class	2.1
Danger label(s)	2.1

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Special provisions (SP) A1
 Excepted quantities (EQ) E0

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

There is no additional information.

National regulations (United States)

Toxic Substance Control Act (TSCA) substance is listed

SARA TITLE III (Superfund Amendment and Reauthorization Act)

- List of Extremely Hazardous Substances (40 CFR 355) (EPCRA Section 302 and 304)
 Not listed

- Specific Toxic Chemical Listings (40 CFR 372) (EPCRA Section 313)
 Not listed

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)

- Section 102(A) Hazardous Substances (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
TRIMETILAMINA	75-50-3		1	100 (45,4)

Legend

1 "1" indicates that the statutory source is section 311(b) (2) of the Clean Water Act

Clean Air Act

Name of substance	CAS No	Type of registration	Basis for listing	Threshold quantity (lbs)
TRIMETILAMINA	75-50-3	Flammable substance	f	10000

Legend

f Flammable gas.

New Jersey Worker and Community Right to Know Act N.J.S.A. 34:5A-1 et. seq.

Right to Know Hazardous Substance List			
Name acc. to inventory	CAS No	Remarks	Classifications
trimethylamine	75-50-3		F4

Legend

F4 Flammable - Fourth Degree

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California Environmental Protection Agency (Cal/EPA): Proposition 65 Chemicals known to the State to cause cancer or reproductive toxicity

Not listed

National inventories

Country	Inventory	Status
CA	DSL	substance is listed
US	TSCA	substance is listed

Legend

DSL Domestic Substances List (DSL)
TSCA Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NOM-010-STPS	NORMA Oficial Mexicana NOM-010-STPS: Agentes químicos contaminantes del ambiente laboral- Reconocimiento, evaluación y control
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
STEL	Short-term exposure limit
TWA	Time-weighted average
VLE	Permissible exposure limit
vPvB	Very Persistent and very Bioaccumulative

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Key literature references and sources for data

Norma Oficial Mexicana NOM-018-STPS-2015, Sistema armonizado para la identificación y comunicación de peligros y riesgos por sustancias químicas peligrosas en los centros de trabajo y NMX-R-019-SFCI-2011 Sistema Armonizado de Clasificación y Comunicación de Peligros de los Productos Químicos.

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapor.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life.

Disclaimer

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