



Specialized in chemicals

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Material Safety Data Sheet

Formic acid MSDS

Section 1: Chemical Product and Company Identification

Product Name: Tetramethylammonium chloride solution (TMAC)

CAS#: 75-57-0

RTECS: BS7700000

CI#: Not applicable.

Synonym: Methanaminium, N,N,N-trimethyl-, chloride

Chemical Name: N,N,N-trimethylmethanaminium chloride

Chemical Formula: C₄H₁₂ClN.

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	By Weight%
Tetramethylammonium chloride	75-57-0	99%

Toxicological Data on Ingredients: Not applicable.

Section 3: Hazards Identification

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Acute toxicity, Oral (Category 3) Acute toxicity,

Dermal (Category 3) Skin irritation (Category 2)

Eye irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Toxic if swallowed. Harmful in contact with skin. Irritating to eyes, respiratory system and skin.

Label elements



Signal word: Danger

Hazard statement(s)

H301 :Toxic if swallowed.

H311:Toxic in contact with skin.

H315:Causes skin irritation.

H319:Causes serious eye irritation.

H335:May cause respiratory irritation.

Precautionary statement(s)

P261:Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray

P280:Wear protective gloves/ protective clothing.

P301+ P310:IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P305+ P351 + P338:IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312:Call a POISON CENTER or doctor/ physician if you feel unwell

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrase(s)

R21 Harmful in contact with skin.

R25 Toxic if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrase(s)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37 Wear suitable protective clothing and gloves.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Section 4: First Aid Measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Indication of any immediate medical attention and special treatment needed

no data available

Section 5: Fire and Explosion Data

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NOx), Hydrogen chloride gas

Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

no data available

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Specific end uses no data available

Section 8: Exposure Controls/Personal Protection

Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9: Physical and Chemical Properties

Appearance	White to off-white crystals
Melting Point	> 300
Density	1.169 g/cm ³ (20°C)
Solubility	methanol: 0.1 g/ml, clear, colorless
Water Solubility	>60 g/100 mL (20 °C)
Sensitive	Hygroscopic

Section 10: Stability and Reactivity Data

Reactivity

no data available

Chemical stability no data available

Possibility of hazardous reactions no data available

Conditions to avoid no data available

Incompatible materials

Strong bases, Strong oxidizing agents

Hazardous decomposition products

Other decomposition products - no data available

Section 11: Toxicological Information

Information on toxicological effects

Acute toxicity no data available

Skin corrosion/irritation no data available

Serious eye damage/eye irritation no data available

Respiratory or skin sensitization no data available

Germ cell mutagenicity no data available

Carcinogenicity

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

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard no data available

Potential health effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion Toxic if swallowed.

Skin Toxic if absorbed through skin. Causes skin irritation.

Eyes Causes serious eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS BS7700000

Section 12: Ecological Information

Toxicity

no data available

Persistence and degradability no data available

Bioaccumulative potential no data available

Mobility in soil no data available

Results of PBT and vPvB assessmentno data available

Other adverse effects no data available

Section 13: Disposal Considerations

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

<p>UN number 2811</p> <p>UN proper shipping name ADR/RID: TOXIC LIQUID, ORGANIC, N.O.S. (Tetramethylammonium chloride) IMDG: TOXIC LIQUID, ORGANIC, N.O.S. (Tetramethylammonium chloride) IATA: Toxic liquid, organic, n.o.s. (Tetramethylammonium chloride)</p> <p>Transport hazard class(es) ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1</p> <p>Packaging group ADR/RID: III IMDG: III IATA: II</p> <p>Environmental hazards ADR/RID: no IMDG Marine pollutant: no IATA: no</p> <p>Special precautions for user no data available</p>
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Section 15: Other Regulatory Information

<p>This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006</p> <p>Safety, health and environmental regulations/legislation specific for the substance or mixture no data available</p> <p>Chemical Safety Assessment no data available</p>
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Section 16: Other Information

<p>References: Not available.</p> <p>Other Special Considerations: Not available.</p> <p>Created: 10/09/2005 05:35 PM</p> <p>Last Updated: 05/21/2015 12:00 PM</p>
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