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MATERIAL SAFETY DATA SHEET (MSDS)

TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)

Product code : T0204600100

Identification of the product : TETRAMETHYL AMMONIUM BROMIDE 99%
 CAS No: 64-20-0

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

Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification : SUVCHEM
 Chaitanya Tower, 2nd Floor, Office # 206,
 Siddharth Nagar, S.V. Road,
 Goregaon (West), Mumbai - 400062,
 Maharashtra, India.
 Contact: +91 22 28725393 / 94 / 95
 Email ID: info@suvchem.com/care@suvchem.com

1.4. Emergency telephone number

Phone no. : + 91 22 28725393 / 94 / 95 (9:00am - 6:00 pm) [Office hours]

2. Hazards identification -DSD

2.1. Classification of the substance or mixture

Classification EC 67/548 or EC 1999/45

Classification : T; R25
 Xn; R21
 Xi; R36/37/38

Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

Health hazards : Specific Target Organ Toxicity - Single exposure - Respiratory tract irritation -
 Category 3 - Warning (CLP : STOT SE 3) H335
 Acute toxicity, Oral - Category 3 - Danger (CLP : Acute Tox. 3) H301
 Skin irritation - Category 2 - Warning (CLP : Skin Corr. 2) H315
 Eye irritation - Category 2A - Warning (CLP : Eye Irrit. 2) H319
 Acute toxicity, dermal - Category 4 - Warning (CLP : Acute Tox. 4) H312

2.2. Label elements

Labelling EC 67/548 or EC 1999/45

MATERIAL SAFETY DATA SHEET (MSDS)
TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)
2. Hazards identification -DSD (continued)
Symbol(s)

Symbol(s)

: T : Toxic

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.

S28 : After contact with skin, wash immediately with

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 when possible).

Labelling Regulation EC 1272/2008 (CLP)
Hazard pictograms

Signal words

: Danger

Hazard statements

: H301 : Toxic if swallowed.

H312 : Harmful in contact with skin.

H319 : Causes serious eye irritation.

H315 : Causes skin irritation.

H335 : May cause respiratory irritation.

Precautionary statements
• Prevention

: P280: Wear protective gloves, protective clothing, eye protection, face protection.

P271: Use only outdoors or in a well-ventilated area.

P261: Avoid breathing dust, fume, gas, mist, vapours, spray.

P264: Wash thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

• Response

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

P302+P352: IF ON SKIN : Wash with plenty of soap and water.

P332+P313: If skin irritation occurs : Get medical advice.

P305+P351+P338: IF IN EYES : Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P340: IF INHALED : Remove to fresh air and keep at rest in a position comfortable for breathing.

P363: Wash contaminated clothing before reuse.

• Storage

: P403+P233: Store in well-ventilated place. Keep container tightly closed.

P405: Store locked up.

• Disposal considerations

: P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

MATERIAL SAFETY DATA SHEET (MSDS)
TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)
2. Hazards identification -DSD (continued)

Other hazards : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

3. Composition/information on ingredients

Substance / Preparation : TETRAMETHYL AMMONIUM BROMIDE 99%

Substance.

Contains no other components or impurities which will influence the classification of the product.

4. First aid measures
4.1. Description of first aid measures

Inhalation : Call a POISON CENTER or doctor if you feel unwell. Remove to fresh air and keep at rest in a position comfortable for breathing.

Skin contact : Immediately call a POISON CENTER or doctor. Specific treatment (see on this label). Wash with plenty of soap and water. If skin irritation occurs : Wash contaminated clothing before reuse. Get medical advice.

Eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists : Get medical advice.

Ingestion : Immediately call a POISON CENTER or doctor. Specific treatment (see on this label). Rinse mouth. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms relating to use : Swallowing a small quantity of this material will result in serious health hazard. Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Causes serious eye irritation.
Causes skin irritation. May cause respiratory irritation.

4.3. Indication of any immediate medical attention and special treatment needed

General information : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures
5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

Surrounding fires : Use water spray or fog for cooling exposed containers.

MATERIAL SAFETY DATA SHEET (MSDS)
TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)
5. Fire-fighting measures (continued)
5.2. Special hazards arising from the substance or mixture

Hazardous combustion products : Under fire conditions, hazardous fumes will be present.

5.3. Advice for fire-fighters

Protection against fire : Do not enter fire area without proper protective equipment, including respiratory protection.

Special procedures : Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

6. Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures

For emergency responders : Equip cleanup crew with proper protection.
Ventilate area.

For non-emergency personnel : Evacuate unnecessary personnel.

6.2. Environmental precautions

Environmental precautions : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Clean up methods : On land, sweep or shovel into suitable containers. Minimize generation of dust.
Store away from other materials.

6.4. Reference to other sections

See section 8. Exposure controls/personal protection

7. Handling and storage
7.1. Precautions for safe handling

Handling : Wash thoroughly after handling. Do not eat, drink or smoke when using this product.
Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.

Technical protective measures : Provide good ventilation in process area to prevent formation of vapour.

Special precautions : Avoid breathing dust, fume, gas, mist, vapours, spray.

7.2. Conditions for safe storage, including any incompatibilities

MATERIAL SAFETY DATA SHEET (MSDS)
TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)
7. Handling and storage (continued)

Storage : Keep only in the original container in a cool, well ventilated place. Keep container tightly closed.

Storage - away from : Strong bases. Strong acids. Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

Specific end use(s) : None.

8. Exposure controls/personal protection
8.1. Exposure controls

Personal protection : Avoid all unnecessary exposure.

- **Respiratory protection** : Wear approved mask.
- **Hand protection** : Wear protective gloves.
- **Skin protection** : Wear suitable protective clothing.
- **Eye protection** : Chemical goggles or safety glasses.
- **Others** : When using, do not eat, drink or smoke.

8.2. Control parameters

Occupational Exposure Limits : No data available.

9. Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state at 20 °C : Solid.

Colour : White crystalline

Odour : Odorless

Odour threshold : No data available.

pH value : Not applicable.

Melting point [°C] : > 300 °C

Decomposition point [°C] : N/A

Critical temperature [°C] : N/A

Auto-ignition temperature [°C] : N/A

Flammability (solid, gas) : N/A

Flash point [°C] : N/A

Boiling point [°C] : N/A

Initial boiling point [°C] : N/A

Final boiling point [°C] : N/A

MATERIAL SAFETY DATA SHEET (MSDS)
TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)
9. Physical and chemical properties (continued)

Evaporation rate	: N/A
Vapour pressure [20°C]	: N/A
Vapour pressure mm/Hg	: N/A
Vapour density	: N/A
Density [g/cm ³]	: N/A
Relative density, gas (air=1)	: N/A
Relative density, liquid (water=1)	: N/A
Solubility in water [% weight]	: Soluble in water
Solubility in water	: N/A
Log Pow octanol / water at 20°C	: No data available.
Solubility	: N/A
Viscosity at 40°C [mm ² /s]	: N/A

9.2. Other information

Explosive properties	: N/A
Explosion limits - upper [%]	: N/A
Explosion limits - lower [%]	: N/A
Oxidising properties	: No data available.

10. Stability and reactivity
10.1. Reactivity

Reactivity	: Not established.
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10.2. Chemical stability

Chemical stability	: Stable under recommended storage conditions.
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10.3. Possibility of hazardous reactions

Hazardous reactions	: Not established.
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10.4. Conditions to avoid

Conditions to avoid	: Direct sunlight. Extremely high or low temperatures.
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10.5. Incompatible materials

Materials to avoid	: Strong acids. Strong bases.
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10.6. Hazardous decomposition products

MATERIAL SAFETY DATA SHEET (MSDS)
TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)
10. Stability and reactivity (continued)

Hazardous decomposition products : Fumes. Carbon monoxide. Carbon dioxide.

11. Toxicological information
11.1. Information on toxicological effects
Acute toxicity

- **Inhalation** : Based on available data, the classification criteria are not met.
- **Dermal** : Harmful in contact with skin.
- **Ingestion** : Toxic if swallowed.

Corrosion : Based on available data, the classification criteria are not met.

Irritation : Causes serious eye irritation.
Causes skin irritation.
May cause respiratory irritation.

Sensitization : Based on available data, the classification criteria are not met.

Mutagenicity : Based on available data, the classification criteria are not met.

Carcinogenicity : Based on available data, the classification criteria are not met.

Toxic for reproduction : Based on available data, the classification criteria are not met.

STOT-single exposure : Based on available data, the classification criteria are not met.

STOT-repeated exposure : Based on available data, the classification criteria are not met.

Aspiration hazard : Based on available data, the classification criteria are not met.

12. Ecological information
12.1. Toxicity

Toxicity information : Not established.

12.2. Persistence - degradability

Persistence - degradability : Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential : Not established.

12.4. Mobility in soil

Mobility in soil : Not established.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

MATERIAL SAFETY DATA SHEET (MSDS)
TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)
12. Ecological information (continued)
12.6. Other adverse effects

Environmental precautions : Avoid release to the environment.

13. Disposal considerations
13.1. Waste treatment methods

General : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.
 Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Special precautions : Hazardous waste due to toxicity.

14. Transport information
14.1. Land transport (ADR-RID)

Proper shipping name : TOXIC SOLID, ORGANIC, N.O.S.
UN N° : 2811
H.I. nr : 60
ADR - Class : 6.1
Labelling - Transport : 6.1 : Toxic substances.



ADR - Classification code : T2
ADR - Group : II
ADR - Packing instructions : P002
ADR - Limited Quantity : 500 G
ADR - Tunnel code



: D/E : Bulk or tank carriage: Passage forbidden through tunnels of category D and E. Other carriage: Passage forbidden through tunnels of category E.

14.2. Sea transport (IMDG) [English only]

Proper shipping name : TOXIC SOLID, ORGANIC, N.O.S.

MATERIAL SAFETY DATA SHEET (MSDS)
TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)
14. Transport information (continued)

UN N° : 2811
 IMO-IMDG - Class or division : 6.1 : Toxic substances.
 IMO-IMDG - Packing group : II
 IMO-IMDG - Packing instructions : P002
 IMO-IMDG - Limited quantities : 500 g
 IMO-IMDG - Marine pollution : No
 EMS-Nr : F-A S-A

14.3. Air transport (ICAO-IATA) [English only]

Proper shipping name : TOXIC SOLID, ORGANIC, N.O.S.
 UN N° : 2811
 IATA - Class or division : 6.1 : Toxic substances.
 IATA - Packing group : II
 IATA - Passenger and Cargo Aircraft : ALLOWED
 - Passenger and Cargo - Packing instruction : 669
 - Passenger and Cargo - Maximum Quantity/Packing : 25 kg
 IATA - Cargo only : ALLOWED
 - Cargo only - Packing instruction : 676
 - Cargo only - Maximum Quantity/Packing : 100 kg
 IATA - Limited Quantities : 1 kg
 ERG-Nr : 6L

15. Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.
 REACH Restrictions - Annex XVII : The components of this product are not subject to restrictions.
 REACH Authorisation - Annex XIV : The components of this product are not subject to authorization.

15.2. Chemical Safety Assessment

Chemical Safety Assessment : It has not been carried out.

MATERIAL SAFETY DATA SHEET (MSDS)

TETRA METHYL AMMONIUM BROMIDE (FOR SYNTHESIS)

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

DISCLAIMER:

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- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
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