

1 Identification of substance:

Product name: Tetrabutyl ammonium chloride 50% solution in methanol

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

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248, Worli Road,

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Information Department: Health, Safety and Environmental Department

Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:
Chemical characterization:
Description: (CAS#)

Tetra-n-butylammonium chloride: 50%

Methanol : 50%

3 Hazards identification
Hazard description:


T Toxic

F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 34 Causes burns.

R 39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Classification system
GHS label elements

Danger



2.6/2 - Highly flammable liquid and vapour.



3.1/3 - Toxic if swallowed.

3.1/3 - Toxic in contact with skin.

3.1/3 - Toxic if inhaled.



3.8/1 - Causes damage to organs.



3.2/1B - Causes severe skin burns and eye damage.

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Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

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

IF exposed or if you feel unwell:

Immediately call a POISON CENTER or doctor/physician.

Storage:

Store in a closed container.

4 First aid measures**General information**

Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing

Do not induce vomiting; immediately call for medical help.
Seek immediate medical advice.

5 Fire fighting measures**Suitable extinguishing agents**

Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

Special hazards caused by the material, its products of combustion or resulting gases:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NOx)

Possibly Hydrogen cyanide (HCN)

In case of fire, the following can be released:

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Information for safe handling:**

Handle under dry protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

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Open and handle container with care.

Information about protection against explosions and fires:

Keep ignition sources away.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Storage

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility:

Do not store together with acids.

Store away from oxidizing agents.

Store away from air.

Further information about storage conditions:

Store under dry inert gas.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

This product is air sensitive.

8 Exposure controls and personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Methyl alcohol

	ppm
ACGIH TLV	200; 250-STEL (skin)
Austria MAK	200 (skin)
Belgium TWA	200; 250-STEL (skin)
Denmark TWA	200 (skin)
Finland TWA	200; 250-STEL (skin)
France VME	200; 1000-VLE
Germany TWA	200
Hungary TWA	50 mg/m ³ ; 100 mg/m ³ -STEL (skin)
Ireland TWA	200; 250-STEL (skin)
Japan OEL	200 (skin)
Korea TLV	200; 250-STEL (skin)
Netherlands MAC-TGG	200 (skin)
Norway TWA	100
Poland TWA	100; 300-STEL
Russia TWA	200; 5 mg/m ³ -STEL (skin)
Sweden NGV	200; 250-KTV (skin)
Switzerland TWA	200; 400-STEL (skin)
United Kingdom TWA	200; 250-STEL (skin)
OSHA PEL	200

Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection:

Safety glasses

Tightly sealed goggles

Full face protection

Body protection: Protective work clothing.

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9 Physical and chemical properties:

General Information	
Form:	Liquid
Color:	Colorless
Odor:	Alcohol-like
Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flash point:	11°C (52°F)
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density at 20°C (68°F):	0.83 g/cm ³
Solubility in / Miscibility with Water:	
	Fully miscible

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Oxidizing agents

Acids

Air

Carbon dioxide

Dangerous reactions No dangerous reactions known

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NOx)

Corrosive gases/vapors

Possibly Hydrogen cyanide (HCN)

11 Toxicological information

Acute toxicity:

Methanol: oral LD50 5628mg/kg (rat)

Methanol: dermal LD50 15800mg/kg (rabbit)

Methanol: inhalation LC50 85000mg/L/4H

Primary irritant effect:

on the skin: Corrosive effect on skin and mucous membranes.

on the eye: Strong corrosive effect.

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity:

Symptoms of methanol overexposure may include intoxication, headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma and death. It is a defatting agent and can cause skin and eye irritation. Absorption through the skin is possible. Chronic exposure may cause liver and eye injury.

Subacute to chronic toxicity:

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss. Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

Solutions of quaternary ammonium hydroxides are extremely corrosive and destructive to tissues that they come in contact with. They cause severe burns on contact with the skin and may cause blindness in contact with the eyes. Inhalation of the solution would be expected to cause burns of the upper respiratory tract along with symptoms such as coughing, wheezing, and shortness of breath. Will cause burns of the digestive tract if ingested. Symptoms of chronic exposure are not known. Dilute solutions have similar but less severe effects.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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Danger through skin absorption.
Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
Carcinogen as defined by OSHA.

12 Ecological information:**Additional ecological information:****General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations**Product:**

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information**DOT regulations:****Hazard class:**

3

Identification number:

UN2924

Packing group:

II

Proper shipping name (technical name): FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Tetra-n-butylammonium chloride/ Methanol solution)

Label

3+8

Land transport ADR/RID (cross-border)**ADR/RID class:**

3 (FC) Flammable liquids

Danger code (Kemler):

338

UN-Number:

2924

Packaging group:

II

Description of goods:

2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Tetra-n-butylammonium chloride/ Methanol solution)

Maritime transport IMDG:**IMDG Class:**

3

UN Number:

2924

Label

3+8

Packaging group:

II

Marine pollutant:

No

Proper shipping name:

FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Tetra-n-butylammonium chloride/ Methanol solution)

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Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class:	3
UN/ID Number:	2924
Label	3+8
Packaging group:	II
Proper shipping name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Tetra-n-butylammonium chloride/ Methanol solution)

UN "Model Regulation": UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., 3 (8), II

15 Regulations

Product related hazard informations:**Hazard symbols:**

T Toxic
F Highly flammable

Risk phrases:

11 Highly flammable.
23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
34 Causes burns.
39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Safety phrases:

7 Keep container tightly closed.
16 Keep away from sources of ignition - No smoking.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

Information about limitation of use:

For use only by technically qualified individuals.
This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

16 Other information:

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

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