

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - Europe

Section 1 - Chemical Product and Company Identification

Product Name: Tetrakis (Hydroxymethyl) Phosphonium Sulphate Solution

Distributor: Access Chemicals and Services, 7322 Southwest Fwy # 2000, Houston, TX 77074 (713) 270-7215

Product Use

Surfactant

Emergency Telephone: CHEMTREC 800-424-9300
International Emergency Telephone Number: 703-527-3887

Section 2 - Hazards Identification

GHS HAZARD

Hazard Classes

Acute toxicity, Oral
Acute toxicity, Inhalation
Skin irritation
Serious eye damage
Skin sensitisation
Carcinogenicity
Reproductive
Acute aquatic toxicity

Hazard Categories

Category 4
Category 3
Category 3
Category 1
Category 1
Category 1
Category 2
Category 1B
Category 1

Signal Word: Danger



Pictograms:

Hazard Statements

PHYSICAL HAZARDS:

None

HEALTH HAZARDS:

H302: Harmful if swallowed
H316: Causes skin irritation
H317: May cause an allergic skin reaction
H318: Causes serious eye damage
H331: Toxic if inhaled
H351: Suspected of causing cancer
H360: May damage fertility or the unborn child

Tetrakis (Hydroxymethyl) Phosphonium Sulphate Solution

| | |
|----------------------------------|--|
| ENVIRONMENTAL HAZARDS: | H400: Very toxic to aquatic life |
| PRECAUTIONARY STATEMENTS: | P261: Avoid breathing vapors P273: Avoid release to the environment P280: Wear protective gloves and eye protection P284: Wear respiratory protection P301 +310+ P331: IF SWALLOWED: <u>USA</u> Immediately call the National POISON CENTER at 800-222-1222 . <u>OUT SIDE USA</u> Immediately call poison center or doctor. DO NOT induce vomiting |
| RESPONSE STATEMENTS: | P303+P361+353: IF ON SKIN, Take off immediately all contaminated clothing. Rinse skin with water/shower P304+340: IF INHALED, Remove to fresh air and keep comfortable for breathing. If not breathing give artificial respiration. DO NOT use mouth to mouth resuscitation without proper protection P305+P351: IF IN EYES rinse cautiously with water for at least 15 minutes P306+P361: IF ON CLOTHING, Take off contaminated clothing P376: Stop leaks if safe to do so. See section 6 for proper clean up |
| STORAGE STATEMENTS: | P403 + P233: Store in a well-ventilated place, Keep container tightly closed when not in use |
| DISPOSAL STATEMENTS: | P501: Dispose of content and/ container in accordance with local, regional, national and/or international regulations |

Section 3 - Composition / Information on Ingredients

| Chemical Names | CAS #. | EU# | Concentration% | Other Identifiers |
|--|------------|-----------|----------------|-------------------|
| Tetrakis(Hydroxymethyl) Phosphonium Sulphate | 55566-30-8 | 259-709-0 | 75% | THPS |
| Water | 7732-18-5 | 231-791-2 | 24 % | H ₂ O |
| Formaldehyde | 50-00-0 | 200-001-8 | <1% | Formalin |

Section 4 - First Aid Measures

Eye: Contact with the eyes can cause serious irritation. Symptoms may include discomfort or pain and redness. Severe overexposure can result in swelling of the conjunctiva along with tissue damage.

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Prolonged and repeated liquid contact can cause defatting and drying of the skin and can lead to irritation and/or dermatitis.

Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: Liquid ingestion can cause inebriation, headache, gastrointestinal pain, nausea, and vomiting leading to central nervous system depression. Aspiration of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonia, pulmonary edema and even death.

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Ingestion: Do NOT induce vomiting. Get medical aid immediately.

Inhalation: Prolonged breathing of high vapor concentrations can produce headache, dizziness, nausea, and impaired vision. Excessive overexposure can cause central nervous system depression, loss of consciousness, liver damage and death resulting from respiratory failure.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult and **IF TRAINED**, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation without protection.

After first aid, get appropriate paramedic, or community medical support.

Note to Physicians: The severity of outcome following ingestion may be more related to the time between ingestion and treatment, rather than the amount ingested. Therefore, there is a need for rapid treatment of any ingestion exposure.

Section 5 - Fire-Fighting Measures

Flammable Properties: Not flammable

Suitable Extinguishing Media: Carbon dioxide, dry chemical powder or appropriate foam. Use water to keep non-leaking, fire-exposed containers cool.

Precautions for Firefighters: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Substance is noncombustible. Contact with metals may evolve flammable hydrogen gas.

Section 6 - Accidental Release Measures

Personal Precautions: Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Increase ventilation to area or move container to a well-ventilated and secure area. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Before entry, especially into confined areas, check atmosphere with an appropriate monitor.

Methods for Containment and Clean-up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating vapor conditions. Cover with sand, dry lime or soda ash and place in a closed container for disposal. Provide ventilation. Evacuate unnecessary personnel.

Other Information: Report spills to local health, safety and environmental authorities, as required.

Section 7 - Handling and Storage

Handling Precautions

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not breathe dust minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing

Storage: Store in a cool, dry, well-ventilated area, out of direct sunlight. Keep quantities stored as small as possible. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.

Section 8 - Exposure Controls / Personal Protection

| Chemical Names | ACGIH- TLV | OSHA - PEL |
|--|-------------|------------|
| Tetrakis(Hydroxymethyl) Phosphonium Sulphate | 2 mg/m3 TWA | 2 mg/m3 |
| Formaldehyde | 0.3 ppm C | 0.75 ppm |

Tetrakis (Hydroxymethyl) Phosphonium Sulphate Solution

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value.

OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits.

NOTE: TWA Means "TWA is the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded." **C Mean** the concentration that should not be exceeded during any part of the working exposure.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below TLV/PELs Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Eye Protection: Standard for Chemical splash goggles approved to the **ANSI Z87.1 2003** or **European EN166 Standard**.

Hand Protection: Select gloves tested to the **ANSI/ISEA 105-2011** or **European EN374 Standard**. Contaminated gloves should be replaced.

Body protection: Chemical resistant gloves/gauntlets, boots, and apron where there is a risk of splashing.

Respiratory Protection: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Select a filter suitable for combined particulate/organic gases and vapors meeting the **European EN14387Standard**.

Contaminated Equipment: Separate contaminated work clothes from street clothes and launder before reuse. Remove this material from your shoes and clean personal protective equipment.

NOTE: Exposure to this material can be controlled in many ways. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. This general information can be used to help develop specific control measures. Ensure that control systems are properly designed and maintained. Comply with occupational, environmental, fire, and other applicable regulations.

Protective Clothing Pictograms



Section 9 - Physical and Chemical Properties

Physical State: liquid

Appearance: Clear

Odor: Odorless

Boiling Point: Not Available

Melting/ Freezing Point Not Available

Relative Density (water = 1): 1.4

Solubility in Water: Complete

pH: 3

Vapor Pressure: Not Available

Vapor Density (Air=1): Not Available

Flash Point 204° F 96° C

Lower Explosive Limit: N/A

Upper Explosive Limit: N/A

Section 10 - Stability and Reactivity

Chemical Stability: Stable under ordinary conditions of use and storage.

Conditions to Avoid: Excess heat

Incompatible Materials: Strong bases oxidizing agents.

Hazardous Combustion Products: Oxides of sulfur, Oxides of phosphorus, and/or Oxides of carbon

Tetrakis (Hydroxymethyl) Phosphonium Sulphate Solution

Section 11- Toxicological Information

Toxicity Data: LD50 Values

| Chemical Name | LD50 oral rat | LC50 Inhalation Rat |
|--|---------------|---------------------|
| Tetrakis(Hydroxymethyl) Phosphonium Sulphate | 248 mg/kg | 5.5 mg/l 4 hours |
| Formaldehyde | 100 mg/kg | 203 mg/ml |

Carcinogenicity:

| Chemical Name | IARC | ACGIH | NTP | OSHA |
|--|---|---|---|------------|
| Tetrakis(Hydroxymethyl) Phosphonium Sulphate | Not listed | A4 - Not classifiable as a human carcinogen | Not listed | Not Listed |
| Formaldehyde | 1 indicates the substance is carcinogenic to humans | A2 - Suspected Human Carcinogen | K—the substance is known to be a human carcinogen | Yes |

Key to Abbreviations

IARC = International Agency for Research on Cancer.

ACGIH= American Conference of Governmental Industrial Hygienists

NTP = National Toxicology Program.

Routes: Inhalation, Ingestion, absorption. skin and/or eye contact.

Target Organs: Eyes, Kidneys. Central nervous system

Potential health effects Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

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

Ingestion Harmful if swallowed.

Skin Causes skin damage

Eyes Causes eye damage

Signs and Symptoms of Exposure: Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Carcinogenicity: Yes (Formaldehyde)

Teratogenicity/Embryotoxicity: Not harmful the unborn child

Reproductive Toxicity: Not a reproductive hazard

Mutagenicity: Not a mutagen

Section 12 - Ecological Information

| | | | |
|--|-----------------|---------|----------|
| Tetrakis(Hydroxymethyl) Phosphonium Sulphate | LC50 10.8 mg/L | Fish | 96 hours |
| Tetrakis(Hydroxymethyl) Phosphonium Sulphate | EC50 19.4 mg/L | Daphnia | 48 hours |
| Tetrakis(Hydroxymethyl) Phosphonium Sulphate | EC50 - 0.2 mg/L | Algae | 96 hours |
| Formaldehyde | LC50 1.41 mg/L | Fish | 96 hours |
| Formaldehyde | EC50 5.8 mg/L | Daphnia | 48 hours |

Toxicity Toxic to aquatic organisms, contain runoff

Mobility in soil: Will be rapidly mineralized to carbon dioxide (CO₂) upon entering the aquatic environment

Persistence/degradability: This product is readily biodegradable under aerobic and anaerobic conditions in a sediment-water system. 28 days (aerobic) and 30 days (anaerobic).

Bioaccumulation: Product is not expected to bioaccumulate

Tetrakis (Hydroxymethyl) Phosphonium Sulphate Solution

PBT and vPvB assessment: No data available.

Section 13 - Disposal Considerations

Disposal: DO NOT REUSE EMPTY CONTAINER! Container with residues should be considered to be hazardous wastes. Contact a licensed contractor for detailed recommendations. Follow applicable federal, state, and local regulations.

Tetrakis (Hydroxymethyl) Phosphonium Sulphate Solution

Section 14 - Transport Information

US Transport Information



ID No.: UN 2922

Shipping Name: Corrosive Liquids, Toxic, n.o.s. (Tetrakis (hydroxymethyl) phosphonium sulphate, Formaldehyde)

Hazard Class: 8

Packing Group: II

Label: Corrosive, Toxic

Placard: Corrosive

Canadian Transport Information



ID No.: UN 2922

Shipping Name: Corrosive Liquids, Toxic, n.o.s. (Tetrakis (hydroxymethyl) phosphonium sulphate, Formaldehyde)

Hazard Class: 8

Packing Group: II

Label: Corrosive, Toxic

Placard: Corrosive, Toxic

ADR/RID Transport Information



ID No.: UN 2922

Shipping Name: Corrosive Liquids, Toxic, n.o.s. (Tetrakis (hydroxymethyl) phosphonium sulphate, Formaldehyde)

Hazard Class: 8

Packing Group: II

Label: Corrosive, Toxic

Placard: Corrosive, Toxic

Classification Code: CT1

Tetrakis (Hydroxymethyl) Phosphonium Sulphate Solution

IMDG Transport Information



ID No.: UN 2922

Shipping Name: CORROSIVE LIQUIDS, TOXIC, N.O.S. (Tetrakis (hydroxymethyl) phosphonium sulphate, formaldehyde)

Hazard Class: 8

Packing Group: II

EmS Number: F-A.S-B

Label: Corrosive, Toxic

Placard: Corrosive, Toxic

Section 15 - Regulatory Information

US Regulations:

TSCA: Tetrakis (Hydroxymethyl) Phosphonium Sulphate, Formaldehyde

CERCLA Hazardous Substances and corresponding RQs: Formaldehyde 100 pounds (45.4kg)

SARA Community Right-to-Know Program: Formaldehyde

Clean Water Act: Formaldehyde

Clean Air Act: Formaldehyde

OSHA: All ingredients are listed in 1910.1200

State Regulations

California prop. 65: Formaldehyde Cancer

Chemicals on the following State Right to Know Lists:

Massachusetts: Tetrakis (Hydroxymethyl) Phosphonium Sulphate, Formaldehyde

New Jersey: Tetrakis (Hydroxymethyl) Phosphonium Sulphate, Formaldehyde

Pennsylvania: Tetrakis (Hydroxymethyl) Phosphonium Sulphate, Formaldehyde

Canadian Regulation:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

WHMIS Classification:

Tetrakis (Hydroxymethyl) Phosphonium Sulphate Not Listed

Formaldehyde

B3 - Flammable and combustible material - Combustible liquid

D1A - Poisonous and infectious material - Immediate and serious effects - Very toxic

D2A - Poisonous and infectious material - Other effects - Very toxic

D2B - Poisonous and infectious material - Other effects - Toxic

E - Corrosive material

Tetrakis (Hydroxymethyl) Phosphonium Sulphate Solution



B3 – Combustible Liquid



D1A – Very Toxic



D2A – Very Toxic



D2B – Toxic



E – Corrosive

WHMIS Health Effects Criteria Met by this Chemical:

D1A - Acute lethality - very toxic - immediate

D2A - Carcinogenicity - very toxic - other

D2B - Mutagenicity - toxic - other

D2B - Skin Sensitization - toxic - other

E - Corrosive to skin

WHMIS Ingredient Disclosure List: Included for disclosure at 0.1% or greater.

The following substances are specified on the public Portion of the Domestic Substances List (DSL):
Tetrakis (Hydroxymethyl) Phosphonium Sulphate, Formaldehyde

Europe Regulations:

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC.

Tetrakis (Hydroxymethyl) Phosphonium Sulphate

Hazard Symbols: None

EU Risk Phrases:

R 22 Harmful if swallowed.

R 34 Causes burns.

EU Safety Phrases:

S 26 In case of contact with eyes rinse immediately with plenty of water and seek medical advice.

S 28 After contact with skin wash immediately with plenty of water and seek medical advice.

S36 Wear suitable protective clothing

S37 Wear suitable gloves

S39 Wear eye/face protection

Formaldehyde



Hazard Symbols: Toxic

EU Risk Phrases:

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R34 Causes burns.

R40 Limited evidence of a carcinogenic effect.

R43 May cause sensitization by skin contact.

EU Safety Phrases:

S1/2 Keep locked up and out of the reach of children.

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

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

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

S51 Use only in well-ventilated areas.

Tetrakis (Hydroxymethyl) Phosphonium Sulphate Solution

Section 16 - Other Information

Disclaimer: The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER NO responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above is furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use.

References: CHEMINFO data base of Canadian Centre for Occupational Health and Safety (CCOHS), JJ Keller On Line and MSDS.

SDS Preparation Date: 8/30/2013

Prepared by SJC Compliance Education, Inc.

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