SAFETY DATA SHEET

Date Issued : 04/13/2012
MSDS No : 2874

POTASSIUM TETRABORATE

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: POTASSIUM TETRABORATE
PRODUCT CODE: 2874
ALTERNATE TRADE NAME(S): tetrahydrate/dipotassium, tetraboate tetrhydrate

MANUFACTURER
Distributed by Tarr Acquisition, LLC
4115 W. Turney Ave.
Phoenix, AZ 85019
Service Number: 602-233-2000

24 HR. EMERGENCY TELEPHONE NUMBERS
CHEMTREC (US Transportation) :(800) 424 - 9300
CANUTEC (Canadian Transportation) :(613) 996 - 6666

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: Potassium Tetraborate is a white, odorless, powder substance that is not flammable , combustible, or explosive and has low acute oral and dermal toxicity.

POTENTIAL HEALTH EFFECTS

EYES: Potassium tetraborate is non-irritating to the eyes in normal industrial use.

SKIN: Potassium Tetraborate does not cause irritation to intact skin.

INGESTION: Products containing Potassium Tetraborate are not intended for ingestion. Potassium Tetraborate has a low acute toxicity. Small amounts (e.g., a teaspoon) swallowed accidentally are not likely to cause effects; swallowing amounts larger han that may cause gastrointestinal symptoms.

INHALATION: Occasional mild irritation effects to the nose and throat may occur from inhalation of Potassium Tetraborate dust at levels greater tha 10 mg/m3.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

ACUTE TOXICITY: Symptoms of accidental over-exposure to Potassium Tetraborate might include nausea, vomiting and diarrhea, with delayed effects of skin redness and peeling. These symptoms have been associated with the accidental over-exposure to the related substance boric acid. Refer to Section 1 for details o toxicological data.

ROUTES OF ENTRY: Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually ca concern because Potassium Tetraborate is poorly absorbed through intact skin.

3. COMPOSITION / INFORMATION ON INGREDIENTS

POTASSIUM TETRABORATE

Chemical Name	Wt.%	CAS
POTASSIUM TETRABORATE	> 99	12045-78-2

4. FIRST AID MEASURES

SKIN: No treatment necessary because non-irritating.

INGESTION: Swallowing small quantities (one teaspoon) will cause no harm to healthy adults. If larger amounts are swallowed, give two glasses of water to drink and seek medical attention.

INHALATION: If symptoms such as nose or throat irritation are observed, remove person to fresh air.

NOTES TO PHYSICIAN: Observation only is required for adult ingestion in the range of 4-8 grams of Potassium Tetraborate. Fore ingestion of larger amounts, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Hemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses or urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment. Rever to Section 11 for details. Unless otherwise specified, the information presented in the document is derived from that of sodium borates and boric acid.

5. FIRE FIGHTING MEASURES

FLAMMABLE CLASS: OSHA Non-flammable solid.

GENERAL HAZARD: None, because Potassium Tetraborate is not flammable, combustible or explosive. The product is itself a flame retardant.

EXTINGUISHING MEDIA: All standard firefighting media.

6. ACCIDENTAL RELEASE MEASURES

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Where possible, remove any intact containers from the water. Advise local water authority that none of the affected waster should be used for irrigation or for the abstraction of potable water until natural dilution returns the boron value to its normal environmental background level. (Refer to Sections 12, 13, and 15 for additional information.) Potassium Tetraborate is a non-hazardous waste when spilled or disposed of , as defined in the Resource Conservation and Recovery Act (RCRA) regulations (40 CFR 261). (Refer to Regulatory information, Section 15, for additional references.)

LAND SPILL: Vacuum, shovel or sweep up Potassium Tetraborate and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during cleanup and disposal Personal protective equipment is not needed to clean up land spills.

GENERAL PROCEDURES: Potassium Tetraborate is a water-soluble, white powder that may, at high concentrations, cause damage to trees or vegetation by root absorption. (Refer to Ecological information, Section 12, for specific information.)

7. HANDLING AND STORAGE

GENERAL PROCEDURES: No special handling precautions are required, but dry, indoor storage is recommended.

STORAGE TEMPERATURE: Ambient

POTASSIUM TETRABORATE

STORAGE PRESSURE: Atmospheric

SPECIAL SENSITIVITY: Moisture (caking)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m³	ppm	mg/m³
POTASSIUM TETRABORATE	TWA	[1]	15/5 [1]		10
OSHA TABLE COMMENTS: **1**. (total dust/respirable dust)					

ENGINEERING CONTROLS: Use local exhaust ventilation to keep airborne concentrations of Potassium Tetraborate dust below permissible exposure levels.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Eye goggles are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

SKIN: Gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

RESPIRATORY: Where airborne concentrations are expected to exceed exposure limits, NIOSH/MSHA certified respirators should be use.

COMMENTS: Occupational exposure limits: Potassium tetraborate tetrahydrate (Potassium Tetraborate) is treated by OSHA, Cal OSHA and ACGIH as "Particulate Not Otherwise Classified" or "Nuisance Dust".

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Odorless.

APPEARANCE: Crystalline solid

COLOR: White

pH: 9.18

Notes: (0.1% solution); 9.15 (1.0% solution); 9.20 (5.0% solution).

VAPOR PRESSURE: Negligible @ 20 deg. C.

MELTING POINT: 815°C (1500°F)

SOLUBILITY IN WATER: 15.8 % at 20°C

SPECIFIC GRAVITY: 1.950

MOLECULAR WEIGHT: 303.53

10. STABILITY AND REACTIVITY

STABLE: Yes

POTASSIUM TETRABORATE

HAZARDOUS DECOMPOSITION PRODUCTS: None.

INCOMPATIBLE MATERIALS: Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard.

11. TOXICOLOGICAL INFORMATION

ACUTE

Chemical Name	ORAL LD_{50} (rat)	DERMAL LD_{50} (rabbit)
POTASSIUM TETRABORATE	3500 to 4100 mg/kg (Rat)	2000 mg/kg (Rabbit)

INHALATION LC_{50}: Nonexperimental data. Other borates indicate low acute inhalation toxicity. many years of occupational exposure to boric acid and other borate indicate no increase in pulmonary disease.

EYE EFFECTS: No experimental test. data. Eye irritation seen in rabbits treated with sodium tetraborates. many years of occupational exposure to sodium and potassium borate products indicate no adverse effects on human eye. Therefore, Potassium Tetraborate is not considered to be a human eye irritant in normal industrial use.

SKIN EFFECTS: Not a skin irritant.

CARCINOGENICITY

Notes: Boric acid did not produce any evidence of carcinogenicity in mice.

SENSITIZATION: Potassium tetraborate is not a skin sensitizer.

REPRODUCTIVE EFFECTS: Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Studies with the chemically related boric acid in the rat, mouse and rabbit, at high doses, demonstrate developmental effects on the fetus, including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed.

MUTAGENICITY: Boric acid did not produce any evidence of carcinogenicity in mice, nor was any mutagenic activity observed in a battery of short-term mutagenicity assays.

GENERAL COMMENTS: Human data: Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Phytotoxicity: Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimize the amount of Potassium Tetraborate released to the environment.

ECOTOXICOLOGICAL INFORMATION: Boron (B) is the element in potassium tetraborate tetrahydrate (Potassium Tetraborate) which is used by convention to report borate product ecological effects. It occurs naturally in seawater at an average concentration of 5 mg B/L and generally occurs in freshwater at concentrations up to 1 mg B/L. In dilute aqueous solutions the predominant boron species present is undissociated boric acid. To convert potassium tetraborate tetrahydrate into the equivalent boron (B) content, multiply by 0.1415.

AQUATIC TOXICITY (ACUTE): Algal toxicity: Green algae, Scenedesmus subspicatus: 96-hr EC10 = 24 mg B/L* (*test substance: sodium tetraborate)

POTASSIUM TETRABORATE

Invertebrate toxicity: Daphnids, Daphnia magna straus: 24-hr EC50 = 242 mg B/L*

Fish toxicity: Seawater: Dab, limanda limanda: 96-hr LC50 = 74 mg B/L*

Freshwater: Rainbow trout, S. gairdneri (embryo-larval stage): 24-day LC50 = 88 mg B/L*, 32-day LC50 = 54 mg B/L*

Goldfish, Carassius auratus (embryo-larval stage): 7-day LC50 = 65 mg B/L*, 3-day LC50 = 71 mg B/L*

CHEMICAL FATE INFORMATION: Environmental fate data

Persistence/degradation: Boron is naturally occurring and ubiquitous in the environment. Potassium Tetraborate decomposes in the environment to natural borate.

Octonal/water partition coefficient: No value. In aqueous solution potassium tetraborate tetrahydrate is converted substantially into undissociated boric acid.

Soil mobility: Potassium Tetraborate is soluble in water and is leachable through normal soil

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Small quantities of Potassium Tetraborate can usually be disposed of at landfill sites. No special disposal treatment is require, but local authorities should be consulted about any specific local requirements. Tonnage quantities of product should, if possible, be used fr appropriate application.

RCRA/EPA WASTE INFORMATION: Potassium Tetraborate is not listed under any sections of the Federal Resource Conservation and Recovery Act (RCRA).

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

OTHER SHIPPING INFORMATION: Potassium Tetraborate is not regulated by the U.S. Department of Transportation (DOT) and is therefore no considered a hazardous material/substance.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: This product should be reported as a delayed (chronic) health hazard.

FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** No **CHRONIC:** Yes

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: CERCLA/SARA: Potassium tetraborate tetrahydrate is not listed under CERCLA or its 1986 amendments, SARA, including substances listed under Section 313 of SARA, Toxic Chemicals, 42 USC 11023, 40 CFR 372.65, Section 302 of SARA, Extremely Hazardous Substances,42 USC 1102, 40 CFR 355, or the CERCLA Hazardous Substances list, 42 USC 9604, 40 CFR 302.

GENERAL COMMENTS: The regulatory information is not intended to be comprehensive. Other regulations may

apply to this material.

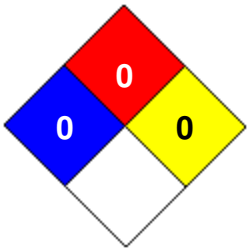
16. OTHER INFORMATION

PREPARED BY: COMPLIANCE DEPT.

HMIS RATING

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

NFPA CODES



HMIS RATINGS NOTES: Chronic health effects

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