Disodium Octaborate Tetrahydrate

MSDS Number: rm-DOT

Revision Date: 1/7/2015

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Disodium Octaborate Tetrahydrate
Revision Date:	1/7/2015
Version:	1.1
MSDS Number:	rm-DOT
Common Name:	Disodium Octaborate Tetrahydrate
CAS Number:	12280-0
EPA Number:	29 CFR 1910.1200
RCRA Number:	29 CFR 1910.2100
Chemical Family:	Inorganic Borates
Chemical Formula:	Na2B8O13:4H2O
Synonyms:	COT
Product Use:	Flame retardant, wood preservative, agricultural nutrient, water treatment

Supplier:

Rose Mill Company
100 Brook Street
West Hartford, CT 06110

860-232-9990 (Phone)
860-232-9995 (Fax)

www.RoseMill.com
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2 HAZARDS IDENTIFICATION

Route of Entry:	Inhalation: Occasional mild irritation effects to nose and throat may occur from inhalation of dust levels greater than 10m/m3.
Target Organs:	No target organs have been determined in humans. High does animal ingestion studies indicate the testes are the target organ.
Inhalation:	Minimal respiratory tract irritation may occur with exposure to a large amount of material.
Skin Contact:	Non-irritating to intact skin.
Eye Contact:	Does not cause eye irritation in normal industrial use.
Ingestion:	Not intended for digestoin. Amounts greater than one teaspookful, when ingested, may cause gastrointestinal problems.

GHS Signal Word:
DANGER

GHS Hazard Pictograms:

GHS Classifications:
Health, Reproductive toxicity, 1

GHS Phrases:
H360 - May damage fertility or the unborn child

GHS Precautionary Statements:
P302+350 - IF ON SKIN: Gently wash with soap and water.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P333+313 - If skin irritation or a rash occurs: Get medical advice/attention.

DOT is a white, odorless powder substance that is not flammable combustible or explosive and has low acute oral and dermal toxicity.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CAS #		Chemical Name
12280-03-4	>99%	Disodium Octaborate Tetrahydrate

4 FIRST AID MEASURES

Inhalation: If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Wash with soap and water.
Eye Contact: Flush with large amounts of water or saline solution, occasionally lifting upper and lower lids, until no evidence of powder remains (approx 15-20mins). Get medical attention if aggravation persists.
Ingestion: If amounts greater than one teaspoon are swallowed, give two glasses of water to drink and seek medical attention.

5 FIRE FIGHTING MEASURES

Flammability: Not Flammable
Flash Point: None

Any fire extinguishing media may be ussed on nearby fires.

6 ACCIDENTAL RELEASE MEASURES

Borates may damage trees and vegetation. For dry spills, sweep, vacuum, or shovel and place in containers for disposal in accordance with applicable regulations. Avoice contamination of bodies of water during cleanup. Can cause localized contamination of surrounding waters depending on amount dissolved in these waters. Some damamge to local vegetation, fish, and other aquatic life may be expected. Under usual conditions, no protective equipment is required.
Remove any intact containers from water where possible. Advise local water authority that none of the affected water 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. Product is a non-hazardous waste when spilled or disposed of , as defined in the Resource Conservation and Recovery Act (RCRA) regualtions (40 CFR 261).

7 HANDLING AND STORAGE

Handling Precautions: No special handling precautions are required. To maintain package integrity and to minimize caking of the product, bags should be handled on a "first-in-first-out" basis.

Storage Requirements: To maintain package integrity and to minimize caking of the product, bags should be handled on a first-in, first-out basis. Good housekeeping procedures shouldbe followed to minimize dust generation and accumulation. The product should be kept away from strong reducing agents.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94).

Personal Protective Equip: In poorly ventilated areas you must wear a supplied air respirator. Use goggles or vented safety glasses in excessively dusty contitions.

Occupational Exposure Limits:Nuisance dust
ACGIH: 10mg/m3
OSHA/PEL(Total dust): 15mg/m3
OSHA/PEL (Respirable Dust): 5mg/m3

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	white crystalline solid		
Spec Grav./Density:	320 to 480 kg/m3	**Odor:**	odorless
Vapor Pressure:	Negligible @ 20C	**Solubility:**	9.7% at 20C: 34.3% @ 50C
pH:	8.3 (3.0% solutions), 7.6 (10.0 % solution)	**Freezing/Melting Pt.:**	815C
Molecular weight:	412.52		

10 STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions.

Materials to Avoid: Strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas that could create an explosive hazard.

Hazardous Decomposition: none

Hazardous Polymerization: none

11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral (LD 50): Low acute oral toxicity. LD50 in rats is 2,500mg/kg of body weight.

Inhalation (LC 50): Low acute inhalation toxicity. LC50 ini rats is greater than 2.0 mg/L

Skin irritation: Low acute dermal toxicity; LD50 in rabbits is greater than 2,000 mg/kg of body weight. Poorly absorobed thorugh intact skin. Non irritant.

Eye irritation: Draize test in rabbits produced eye irritation effects. Fifty years of occupational exposure indicates no adverse effects on the human eye. Not considered to be a human eye irritant in normal industrial use.

Sensitation: Not a skin sensitizer.

Reproductive/developmental toxicity: Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Doses administered were many times in excess of those to which humans would normally be exposed.

Carcinogenicity/mutagenicity: No evidence of carcinogenicity in mice. No mutagenic activity was observed for boric acid in a battery of short term mutagenicity assays.

Human data: Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to 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

Boron is an essential micronutrient for healthy growth of plants, however, it can be harmful to boron sensitive plants in high quantities. Care should be taken to minimize the amount of borate product released to the environment.
Boron occurs naturally in sea water at an average concentration of 5 mg B/l and fresh water at 1 mg B/l. In dilute aqueous solutions the predominant boron species present is undisassociated boric acid.
Environmental Fate Data:
Persistence/Degredation:Boron is naturally occurring and ubiquitous in the environment.
Octanol/Ware partition coeffecient:No value.
Soil Mobility:The product is soluable in water and is leachable through normal soil.

13 DISPOSAL CONSIDERATIONS

Small quantities can usually be disposed of at landfill sites. No special disposal treatment is required, but local authorities should be consulted about any specific local requirements. Tonnage quantities of product are not recommended to be sent to landfills. Such product should, if possible, be used for an appropriate application.

14 TRANSPORT INFORMATION

Not hazardous product according to these transport classifications.

15 REGULATORY INFORMATION

US EPA TSCA Inventory : 12008-41-2
Canadian DSL: 12008-41-2
EINECS: 234-541-0
South Korea: 9312-3213

REGULATORY KEY DESCRIPTIONS

TSCA = Toxic Substances Control Act

16 OTHER INFORMATION

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