

Dial

SODIUM TETRABORATE DECAHYDRATE

MSDS Q-119

REVISION 3

THE DIAL CORPORATION

TECHNICAL AND ADMINISTRATIVE CENTER

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## SUBSTANCE IDENTIFICATION

SUBSTANCE: BORAX

TRADE NAMES/SYNONYMS: TWENTY MULE TEAM BORAX; BORAX

DECAHYDRATE; SODIUM TETRABORATE DECAHYDRATE

CHEMICAL FAMILY: Inorganic salt

I.D. NUMBERS: 929002

NFPA RATINGS (Scale 0-4, U=Unrated):

HEALTH=0

FIRE=0

REACTIVITY=0

HMIS RATINGS (Scale 0-4, where 4=severe hazard):

HEALTH=1

FIRE=0

REACTIVITY=0

This product is labeled in accordance with regulations administered by the Consumer Product Safety Commission. The use pattern and exposure in the workplace are generally not consistent with those experienced by consumers. The requirements of the Occupational Safety and Health Administration applicable to this Material Safety Data Sheet differ from the requirements of the CPSC and as a result, this MSDS may contain additional health hazard information not pertinent to consumer use and not found on the product label.

## HAZARDOUS INGREDIENTS INFORMATION

COMPONENT:

SODIUM BORATE DECAHYDRATE (BORAX) CAS# 1303-96-4

10 mg/m3 OSHA TWA

5 mg/m3 ACGIH TWA

NOTE: OSHA revokes the final rule exposure limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See CFR 1910.1000 (58 FR 35338).

Carcinogen status of component: Not listed as a carcinogen by NTP, IARC, or OSHA.

## PHYSICAL AND CHEMICAL DATA

DESCRIPTION: White, odorless, crystalline powder.

DENSITY: 780 - 900 g/l

MELTING POINT: 144 deg F (62 deg C)

VAPOR PRESSURE: Negligible @ 20 deg C

SOLVENT SOLUBILITY: Soluble in glycerol; very slightly soluble in alcohol; insoluble in acids.

pH: 9.25 @ 20 deg C (3% solution)

SOLUBILITY IN WATER: 5.8% @ 20 deg C

## FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD - Product is not flammable, combustible or explosive.

FIRE FIGHTING MEDIA - Extinguish using agent suitable for type of surrounding fire. Product is fire retardant.

FIRE FIGHTING - No acute hazard.

## HEALTH HAZARD DATA

NOTE: The acute health effects described below are those which could potentially occur for the finished product. They are based on the toxicology information available for the finished product and/or each hazardous ingredient, and are consistent with the product type and the likelihood of a specific route of exposure. Known chronic health effects related to exposure to a specific ingredient are indicated.

## ACUTE HEALTH EFFECTS:

INHALATION: Dust may cause mucous membrane irritation with coughing, dryness and sore throat.

SKIN CONTACT: Non irritating to intact skin. Absorption through large areas of damaged skin may produce symptoms similar to those following ingestion.

EYE CONTACT: Direct contact with powder or dusts may cause irritation with redness, pain, blurred vision, and possibly corneal injury.

INGESTION: May cause gastrointestinal disturbances such as headache nausea, vomiting, abdominal pain, and diarrhea, with delayed effects of skin redness and peeling.

CHRONIC HEALTH EFFECTS: No chronic health effects are expected from the intended use of these products or from foreseeable handling of them in the workplace.

Nonetheless, the following effects have been reported for a component, sodium borate, and boric acid. Sodium borate upon entry into the body becomes boric acid.

Sodium Borate: Sodium borate and boric acid interfere with sperm production, damage the testes and interfere with male fertility when given to animals by mouth at high doses. Boric acid produces developmental effects, including reduced body weight, malformations and death, in the offspring of pregnant animals given boric acid by mouth.

The above mentioned animal studies were conducted under exposure conditions leading to doses many times in excess of those that could occur through product use or inhalation of dust in occupational settings.

Moreover, a human study of occupational exposure to sodium borane and boric acid dusts showed no adverse effect on fertility.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE: Pre-existing skin conditions and respiratory illnesses (such as asthma).

## EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Immediately remove from exposure area to fresh air. Keep affected person warm and at rest. Treat symptomatically and supportively. Contact physician or local poison control center. If breathing has stopped, give artificial respiration, and get medical attention immediately.

SKIN CONTACT: Remove contaminated clothing and shoes. Rinse affected area with soap or a mild detergent and plenty of water until no evidence of product remains.

EYE CONTACT: Immediately rinse eyes with plenty of water, occasionally lifting upper and lower lids, until no evidence of product remains. Get medical attention if pain or irritation persist.

INGESTION: Treat symptomatically and supportively. Maintain airway and respiration. If vomiting occurs, keep head in a position to prevent aspiration of vomitus. Dilution by rinsing the mouth and giving water or milk to drink is generally recommended. If unconscious, the victim should not be given anything to drink. Contact physician or local poison control center.

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REACTIVITY

REACTIVITY - Stable under normal temperatures and pressures.  
 INCOMPATIBILITIES: Strong oxidizers, acids, zirconium.  
 DECOMPOSITION - Thermal decomposition products may include toxic oxides of sodium and boron.  
 POLYMERIZATION - Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

STORAGE AND DISPOSAL

Store away from incompatible substances. Store in a cool dry place. Keep container tightly closed when not in use. Observe all federal, state and local regulations when storing or disposing of this substance.

CONDITIONS TO AVOID

Avoid generation of dust. If material is involved in a fire, it may melt to a glassy material which can flow in large quantities and ignite surrounding combustible materials.

SPILL AND LEAK PROCEDURES

OCCUPATIONAL SPILL - Sweep up and place in suitable clean, dry containers for reclamation or later disposal. Small residual amounts of material may be flushed with water to the sewer. Keep unnecessary people away.

OCCUPATIONAL PROTECTIVE EQUIPMENT

VENTILATION - Provide local exhaust ventilation system to meet permissible exposure limits, where dusts are likely to be generated.  
 RESPIRATOR - Air contamination monitoring should be carried out, where dusts are likely to be generated, to assure that the employees are not exposed to harmful concentrations the above permissible exposure limits. If respiratory protection is required, it must be based on the contamination levels found in the workplace, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).  
 FOR FIRE FIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS - Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.  
 CLOTHING - Protective (impervious) clothing is required where repeated or prolonged skin contact may occur.  
 GLOVES - Chemical-resistant gloves are required where repeated or prolonged skin contact may occur,  
 EYE PROTECTION - Dust-proof safety glasses are required to prevent eye contact where dusty conditions are anticipated.

REGULATORY INFORMATION

DOT FLAMMABILITY CLASSIFICATION: Not applicable.  
 EPA - SARA TITLE III SECTION 313:  
 Toxic chemical - None,  
 TSCA: All components of this product are listed or are exempted or excluded from listing on the U.S. Toxic Substances Control Act (TSCA) chemical substance inventory.

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MSDS CREATION DATE: 03/13/89  
 SUPERSEDES: Rev. 2; 02/26/97  
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 REVISION: Update medical emergency telephone number and regulatory information.

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