



PECO ENERGY

PECO Energy Company  
2301 Market Street  
PO Box 8699  
Philadelphia, PA 19101-8699  
215 841 4000

January 31, 1994

Mr. Sohan Garg  
Department of Environmental Resources  
Suite 6010, Lee Park  
555 North Lane  
Conshohocken, PA 19428

Dear Mr. Garg:

Subject: Limerick Generating Station NPDES Permit No. PA0051926

Pursuant to Chapter 92.7, "Reporting of New or Increased Discharges," we are requesting the subject permit be amended to allow a solution of sodium pentaborate to be discharged to the Schuylkill River from outfall 001 via the holding pond (monitoring point 201). As per our telephone conversation on Thursday, January 6, 1994, the concentration of sodium pentaborate in the final effluent of outfall 001 will be limited to 57 mg/l average and 285 mg/l instantaneous maximum. The following information/plan is being provided to demonstrate that the specified concentration limitations will not be exceeded:

- 1) 25 - 55 gallon drums of sodium pentaborate are to be released. The material will be released over 5 holding pond discharge events (5 barrels or 275 gallons per discharge event).
- 2) Limerick Generating Station Technical Specifications dictate that the maximum allowable concentration of sodium pentaborate to be used in the stand-by liquid control system is 138,000 ppm (Note, the present solution has a concentration of 135,000 ppm). Therefore, releasing 275 gallons of solution into the 200,000 gallon holding pond will result in a concentration of 189.75 ppm of sodium pentaborate in the holding pond.
- 3) Discharge from the holding pond commences when the level in the pond reaches 200,000 gallons. The holding pond discharges at a flow of 1,000 gpm and mixes with cooling tower blowdown. The minimum allowable cooling tower blowdown flow rate is 5000 gpm (the maximum blowdown rate is 10,000 gpm). The mixture of holding pond effluent and cooling tower blowdown will result in a concentration of 38 ppm of sodium pentaborate in the final effluent at outfall 001. This number is conservative due to the use of the maximum allowable concentration of sodium pentaborate and the minimum cooling tower blowdown rate in the final effluent concentration calculation.

Attached for your information are the calculations used in determining the final effluent concentration and the material safety data sheets for boric acid and borax (two components that make up sodium pentaborate).

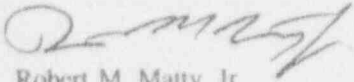
A copy of this letter (including any attachments or enclosures) is being sent to the U.S. Nuclear Regulatory Commission (USNRC) in accordance with the Limerick Generating Station, Units 1 and 2, Environmental Protection Plan, Section 3.2, which stipulates that USNRC shall receive a copy of any proposed changes to the NPDES permit at the same time that the permitting agency is notified.

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Since the final effluent concentration limitations have been determined by your office, we would appreciate an expedited response to our discharge plan. If you have any questions or require additional information, please contact me at (215) 841-5177.

Sincerely,



Robert M. Matty, Jr.  
Engineer  
Environmental Affairs

Attachment

cc: U.S. Nuclear Regulatory Commission, Document Control Desk  
(Docket Nos. 50-352 and 50-353 & License Nos. NPF-39 and NPF-85)  
T. T. Martin, Administrator, USNRC, Region 1  
N. S. Perry, USNRC Senior Resident Inspector, LGS

ATTACHMENT

Calculation Sheet

1. Concentration in the Holding Pond

- 5 55-gallon drums of solution = 275 gallons
- Solution concentration = 138,000 ppm

$$\frac{(\text{Gallons of Solution}) (\text{Solution Concentration})}{(\text{Holding Pond Volume})}$$

$$\frac{(275 \text{ gallons}) (138,000 \text{ ppm})}{(200,000 \text{ gallons})}$$

$$= 189.75 \text{ ppm in Holding Pond}$$

2. Concentration in Final Effluent (outfall 001)

$$\frac{(\text{Holding Pond Concentration}) (\text{Holding Pond Discharge Rate})}{(\text{Blowdown Discharge Rate})}$$

$$= \frac{(189.75 \text{ ppm}) (1000 \text{ gpm})}{(5000 \text{ gpm})}$$

$$= 38 \text{ ppm of sodium pentaborate in final effluent at outfall 001}$$

CML PRODUCT INFORMATION SHEET

Page 1  
11/19/93  
1100-0013

\*\* APPROVED MATERIAL \*\*

Product ..... **BORIC ACID**

Manufacturer ..... UNITED STATES BORAX & CHEMICAL CORPORATION  
3075 WILSHIRE BOULEVARD Phone : (714)774-2675  
LOS ANGELES, CA 90010-1294

Classification ....: 1 (BLUE) Date Approved for U 03/09/92

Product Comments ...: VENDOR RESPONSIBLE FOR REMOVAL OF UNUSED CHEMICALS.

Product Category ...: (1100) SYSTEM ADDITIVES, ANTIFREEZE, CORROSION INHIBITORS

Product Label .....: 1100-0013

Inventory Required : NO Trigger Quantity : 250 Pound(s) or 95 Gallons(s)

Storeroom Codes ....: 119-05352  
114-77347  
119-05351

Storage Zone .....: ACID

Storage Notes .....: NONE

Hazard Codes .....: Health> 2 Flammability> 0 Reactivity> 1 Hazard> 1 MSDS Date ...: 08/31/90

Hazardous Ingredients List (Section 2 of the MSDS)

Chemical	CAS #	Min.	Max.
BORIC ACID	10043353	0.00	99.00

Hazardous Category Codes

- (K20202) USE COMPLETELY, LEAVE NO RESIDUE IN CONTAINER PRIOR TO DISPOSAL
- (K20207) DO NOT FLUSH TO SANITARY DRAIN
- (K20208) DO NOT FLUSH TO RADWASTE DRAIN
- (K20501) CHEMICAL IMPURITIES ANALYSIS OR CERTIFICATE OF CONFORMANCE REQUIRED
- (K20550) DO NOT USE IN OUTSIDE DRAIN AREAS WHICH DRAIN TO RADWASTE
- (K20551) DO NOT USE NEAR OR DRAIN TO SEWAGE OR SANITARY SYSTEMS
- (K20552) DO NOT ALLOW TO DRAIN TO OUTSIDE STORM DRAINS

FOR INFORMATION ONLY, COMPLETE SAFETY INFORMATION SHOULD BE OBTAINED FROM THE MSDS.  
In case of conflicting information, notify Industrial Safety and follow the MSDS.

\*\*\* End of Report \*\*\*  
Controlled Materials Program (CMP) VERSION 2.0

CML PRODUCT INFORMATION SHEET

Page 1  
11/19/93

1100-0013

**\*\* APPROVED MATERIAL \*\***

Product .....: BORIC ACID [2]  
 Manufacturer .....: UNITED STATES BORAX & CHEMICAL CORPORATION  
 3075 WILSHIRE BOULEVARD Phone : (714)774-2673  
 LOS ANGELES, CA 90010-1294  
 Classification ....: 1 (BLUE) Date Approved for Use: 03/09/92  
 Product Comments ...: VENDOR RESPONSIBLE FOR REMOVAL OF UNUSED CHEMICALS.  
 Product Category ...: (1100) SYSTEM ADDITIVES, ANTIFREEZE, CORROSION INHIBITORS  
 Product Label .....: 1100-0013  
 Inventory Required : NO Trigger Quantity : 250 Pound(s) or 55 Gallon(s)  
 Storeroom Codes ...: 116-85221  
 Storage Zone .....: ACID  
 Storage Notes .....: NONE

Hazard Codes .....: Health 2 Flammability 0 Reactivity 1 Hazard 1 MSDS Date ...: 06/31/90

Hazardous Ingredients List (Section 2 of the MSDS)

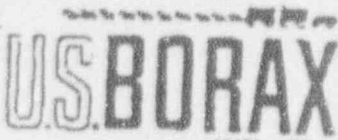
Chemical	CAS #	Min.	Max.
BORIC ACID	10043353	0.00	99.00

Hazardous Category Codes

- (H20202) USE COMPLETELY, LEAVE NO RESIDUE IN CONTAINER PRIOR TO DISPOSAL
- (H20207) DO NOT FLUSH TO SANITARY DRAIN
- (H20208) DO NOT FLUSH TO RADWASTE DRAIN
- (H20501) CHEMICAL IMPURITIES ANALYSES OR CERTIFICATE OF CONFORMANCE REQUIRED
- (H20550) DO NOT USE IN OUTSIDE DRAIN AREAS WHICH DRAIN TO RADWASTE
- (H20551) DO NOT USE NEAR OR DRAIN TO SEWAGE OR SANITARY SYSTEMS
- (H20552) DO NOT ALLOW TO DRAIN TO OUTSIDE STORM DRAINS

FOR INFORMATION ONLY. COMPLETE SAFETY INFORMATION SHOULD BE OBTAINED FROM THE MSDS.  
 In case of conflicting information, notify Industrial Safety and follow the MSDS.

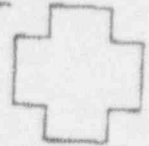
\*\*\* End of Report \*\*\*  
 Controlled Materials Program (CMP) VERSION 2.0



# MATERIAL SAFETY DATA SHEET

Meeting OSHA Standard 29CFR § 1910.1200 (a)  
CAL OSHA Standard Title 26 § 5-5194 (g)

EFFECTIVE DATE: August 31, 1990



## SECTION I — PRODUCT IDENTIFICATION

PRODUCT TRADE NAME: Boric Acid TSCA NO.: 10043-35-3

CHEMICAL NAME AND SYNONYMS: CAS NO.: 10043-35-3  
Boric acid, Orthoboric acid

CHEMICAL FAMILY: Borate FORMULA:  $H_3BO_3$

PHYSICAL HAZARD RATING: National Fire Protection Association

Health	0
Flammability	0
Reactivity	0

## SECTION II — HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT %:

Boric Acid >99% CAS No. 10043-35-3

WARNING: This product contains trace amounts of arsenic, a chemical known to the State of California to cause cancer.

## SECTION III — PHYSICAL DATA

APPEARANCE: White, odorless, crystalline solid

SPECIFIC GRAVITY: 1.5128

MELTING POINT: 170.9°C (340°F)

SOLUBILITY IN WATER: 

20°C	4.7%
100°C	27.5%

HEAT OF SOLUTION: 137 BTU/lb. @ 18°C

FORMULA WEIGHT: 61.84

pH at 20°C: 

0.1% solution	5.1
1.0% solution	5.1
4.7% solution	3.7

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NOV 13 1992

J. C. NAGLE

24 HOUR EMERGENCY TELEPHONE NUMBER: (714) 774-2673

CONTACT: P.L. Strong; Manager, Product Safety

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein.

UNITED STATES BORAX & CHEMICAL CORPORATION • 2075 WILSHIRE BLVD., LOS ANGELES, CA 90010-1204



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**SECTION IV - HEALTH HAZARD INFORMATION****EFFECTS OF ACUTE EXPOSURE****INGESTION:**

ACUTE ORAL LD<sub>50</sub>: 3.3-4.1 gram/kg of body weight (Sprague-Dawley rats).

HUMAN ACCIDENTAL EXPOSURE: Anticipated symptoms: nausea, vomiting, diarrhea. After 24 hours, erythema; macular skin rash, and dizziness may occur.

EYE: Is a mild eye irritant (rabbits - per 16 CFR §1500.42)

**DERMAL:**

ACUTE DERMAL LD<sub>50</sub>: Greater than 2.0 gram/kg of body weight (rabbits - per 16 CFR §1500.40)

PRIMARY SKIN IRRITATION INDEX: 0 (rabbits - per 16 CFR §1500.41)

SKIN: No known adverse effects to humans with intact skin. May be absorbed through damaged skin.

CORROSIVE: This product is non-corrosive.

INHALATION: May cause sneezing and coughing if exposed to high concentrations (>10 mg/m<sup>3</sup>).

**EFFECTS OF CHRONIC OVEREXPOSURE**

INGESTION: Animal testing for carcinogenicity of boric acid has been negative.

Animal studies show that ingestion of large amounts of borates over prolonged periods of time causes a decrease in sperm production and testicle size in male laboratory animals and developmental effects in fetuses of pregnant female laboratory animals. No evidence of such effects in humans.

EYE: May cause slight reversible conjunctivitis

DERMAL: No evidence of effect from exposure on intact human skin.

INHALATION: As with any nuisance dusts, may aggravate chronic respiratory ailments such as asthma, bronchitis, etc.

UNITED STATES BORAX & CHEMICAL CORPORATION - 3075 WILSHIRE BLVD. LOS ANGELES, CA 90010-1294

**USBORAX**

Boric Acid

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**HEALTH HAZARD INFORMATION (cont. from page 2)**

**REGULATORY INFORMATION**


OSHA PERMISSIBLE EXPOSURE LIMIT (PEL): Not listed 29CFR§1910 SUBPART Z

ACGDH RECOMMENDED THRESHOLD LIMIT VALUE: Not listed

NOT LISTED IN THE NATIONAL TOXICOLOGY PROGRAM ANNUAL REPORT ON CARCINOGENS (1989)

NOT LISTED IN THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) MONOGRAPH

NOT LISTED ON THE OSHA CARCINOGENS LIST

**EMERGENCY AND FIRST AID PROCEDURES:** 

EYES: Flush with tepid water for 15 minutes. Consult a physician.

SKIN: Rinse with water.

INHALATION: Remove to fresh air.

INGESTION: Drink large amounts of water or milk. Consult a physician.

**NOTE TO PHYSICIAN:**

Gastric lavage with 3% sodium bicarbonate is suggested. This should be followed by saline catharsis. Assure adequate hydration. Boric acid is not considered an acute poison. After ingestion or absorption into the bloodstream of large amounts (15 grams or more), symptoms may appear after 24-72 hours. Borates are readily dissipated through the urine (70% in the first 24 hours). Complimentary blood analysis is available for physicians and emergency rooms. Medical consultation is also available. Call (714) 776-2673.

UNITED STATES BORAX & CHEMICAL CORPORATION - 3075 WILSHIRE BLVD., LOS ANGELES, CA 90010-1294 **USBORAX**

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Boric Acid

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**SECTION V - FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT (METHOD USED): N/A

FLAMMABLE LIMITS: N/A

EXTINGUISHING MEDIA: None required. Product is an inherent fire retardant.

SPECIAL FIREFIGHTING PROCEDURES: None are required. No potential for fire or explosion hazard. Product is an inherent fire retardant.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

**SECTION VI - REACTIVITY DATA**

STABILITY: Boric acid is a stable product.

INCOMPATIBILITY (MATERIALS TO AVOID): Acetic anhydride; elemental potassium

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Contact with acetic anhydride or elemental potassium may result in explosion.

**SECTION VII - SPILL OR LEAK PROCEDURES**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep or vacuum followed by water rinse.

WASTE DISPOSAL METHOD: Refer to local disposal requirements and regulations for waste disposal methods. Not regulated under §313 of SARA Title III or RCRA (40 CFR 261.33)

UNITED STATES BORAX & CHEMICAL CORPORATION - 2875 WILSHIRE BLVD., LOS ANGELES, CA 90010-1294

**USBORAX**

Boric Acid

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**SECTION VIII - SPECIAL PROTECTION INFORMATION**

RESPIRATOR PROTECTION (SPECIFY TYPE): Recommend use of light duty dust mask (such as 3M model 5800) in areas of high airborne concentrations.

VENTILATION: Local exhaust is sufficient.

PROTECTIVE GLOVES: Leather, cloth or rubber gloves

EYE PROTECTION: To avoid eye contact, dust goggles are recommended in areas of high airborne concentrations.

OTHER PROTECTIVE EQUIPMENT: None

**SECTION IX - SPECIAL PRECAUTIONS**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Dry indoor storage.

OTHER PRECAUTIONS: Retain package integrity.

DATE: Sept 5, 1990 SIGNATURE: [Signature]  
P.L. Strong, Manager, Product Safety

UNITED STATES BORAX & CHEMICAL CORPORATION - 3075 WILSHIRE BLVD., LOS ANGELES, CA 90040-1294

**US BORAX**

Boric Acid

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CML PRODUCT INFORMATION SHEET

Page 1  
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1100-0016

\*\* APPROVED MATERIAL \*\*

Product ..... **BORAX**  
 Manufacturer ..... UNITED STATES BORAX & CHEMICAL CORPORATION  
 3075 MILBRIKE BOULEVARD Phone : (714)774-2673  
 LOS ANGELES, CA 90010-1294  
 Classification ....: I (BLIR) Date Approved for Use: 02/19/92  
 Product Comments ...: PROCESS CHEMICAL FOR USE WITH SCLC SYSTEM ONLY AVOID CONTACT WITH ELEMENTAL ZIRCONIUM (MIXTURE  
 EXPLODES WHEN HEATED) BATCH BY BATCH ANALYSIS REQUIRED  
 Product Category ...: (1100) SYSTEM ADDITIVES, ANTIFREEZE, CORROSION INHIBITORS  
 Product Label .....: 1100-0016  
 Inventory Required : NO Trigger Quantity : 60 Pound(s) or 500 Gallon(s)  
 Storeroom Codes ...: 114-77759  
 119-05351  
 Storage Zone .....: GENERAL  
 Storage Notes .....: NONE

Hazard Codes .....: Health> 1 Flammability> 0 Reactivity> 0 Hazard> 0 MSDS Date ..: 08/31/90

Hazardous Ingredients List (Section 2 of the MSDS)

Chemical	CAS #	%Min.	%Max.
SODIUM TETRABORATE DECAHYDRATE	1303966	0.00	99.00

Hazardous Category Codes

- (K20110) MAY REQUIRE RESPIRATOR PER INDUSTRIAL HEALTH AND SAFETY
- (K20116) GLOVES AND GOGGLES REQUIRED
- (K20118) PORTABLE EYEWASH REQUIRED DURING HANDLING
- (K20119) CONTACT INDUSTRIAL HEALTH AND SAFETY FOR WORK PLANNING
- (K20150) NO USE IN EATING OR SMOKING AREAS
- (K20151) WASH HANDS AFTER USE
- (K20152) AVOID BREATHING OF VAPORS OR DUST
- (K20153) AVOID CONTACT WITH SKIN
- (K20154) NO USE WITHOUT INDUSTRIAL HEALTH AND SAFETY BRIEFING
- (K20158) ENSURE PROPER VENTILLATION DURING USE
- (K20160) ELIMINATE ALL SOURCES OF IGNITION
- (K20202) USE COMPLETELY, LEAVE NO RESIDUE IN CONTAINER PRIOR TO DISPOSAL
- (K20207) DO NOT FLUSH TO SANITARY DRAIN
- (K20208) DO NOT FLUSH TO RADWASTE DRAIN
- (K20210) CONTACT INDUSTRIAL HEALTH AND SAFETY FOR DISPOSAL
- (K20354) NO STORAGE WITH FLAMMABLES
- (K20355) NO STORAGE WITH LUBRICANTS OR ORGANICS
- (K20356) NO STORAGE IN NOISTY CONDITIONS
- (K20357) NO STORAGE IN HIGH HEAT OR NEAR OPEN FLAMES
- (K20362) STORE ONLY IN APPROVED QUANTITIES
- (K20550) DO NOT USE IN OUTSIDE DRAIN AREAS WHICH DRAIN TO RADWASTE
- (K20551) DO NOT USE NEAR OR DRAIN TO SEWAGE OR SANITARY SYSTEMS
- (K20552) DO NOT ALLOW TO DRAIN TO OUTSIDE STORM DRAINE
- (K20558) INDUSTRIAL HEALTH AND SAFETY MONITORING REQUIRED

FOR INFORMATION ONLY. COMPLETE SAFETY INFORMATION SHOULD BE OBTAINED FROM THE MSDS.  
 In case of conflicting information, notify Industrial Safety and follow the MSDS.

\*\*\* End of Report \*\*\*  
 Controlled Materials Program (CMP) VERSION 1.0

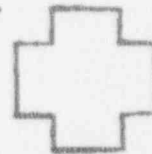
**USBORAX**

**MATERIAL SAFETY DATA SHEET**

Meeting OSHA Standard 29CFR § 1910.1200 (g)

CAL OSHA Standard Title 26 § 8-6194 (g)

EFFECTIVE DATE: August 31, 1990



**SECTION I — PRODUCT IDENTIFICATION**

PRODUCT TRADE NAME: Borax  
 CHEMICAL NAME AND SYNONYMS: Sodium tetraborate decahydrate  
 CHEMICAL FAMILY: Borate  
 PHYSICAL HAZARD RATING: National Fire Protection Association

TSCA NO.: 1303-96-4  
 CAS NO.: 1303-96-4  
 FORMULA:  $K_2 B_4 O_7 \cdot 10 H_2 O$

Health	0
Flammability	0
Reactivity	0

**SECTION II — HAZARDOUS INGREDIENTS**

MATERIAL OR COMPONENT %:  
 Sodium tetraborate decahydrate >99% CAS No. 1303-96-4

Appears on CAL OSHA Directors' List of Hazardous Substances:  
 Does not appear on any EPA List of Hazardous Substances.

WARNING: This product contains trace amounts of arsenic, a chemical known to the State of California to cause cancer.

**SECTION III — PHYSICAL DATA**

APPEARANCE: White, odorless, crystalline solid  
 SPECIFIC GRAVITY: 1.73  
 MELTING POINT: 62°C  
 VAPOR PRESSURE: Negligible  
 SOLUBILITY IN WATER: 20°C 5.8g  
 100°C 65.6g  
 HEAT OF SOLUTION: - 222 BTU/lb.  
 FORMULA WEIGHT: 381.37  
 pH 5% SOLUTION: 9.25 @ 20°C

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 NOV 13 1992  
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**24 HOUR EMERGENCY TELEPHONE NUMBER: (714) 774-2673**

CONTACT: F.L. Strong, Manager, Product Safety

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein.

UNITED STATES BORAX & CHEMICAL CORPORATION • 3075 WILSHIRE BLVD., LOS ANGELES, CA 90010-1294 **USBORAX**

**SECTION IV - HEALTH HAZARD INFORMATION****EFFECTS OF ACUTE EXPOSURE****INGESTION:**

ACUTE ORAL LD<sub>50</sub>: 4.5-5.0 gram/kg of body weight (Sprague-Dawley rats).

HUMAN ACCIDENTAL EXPOSURE: anticipated symptoms: nausea, vomiting, diarrhea. After 24 hours, erythema, macular skin rash, and dizziness may occur.

EYE: Irritant (rabbits - per 16 CFR §1500.42). Probable human eye irritant.

**DERMAL:**

ACUTE DERMAL LD<sub>50</sub>: Greater than 10 gram/kg of body weight  
(rabbits - per 16 CFR §1500.40)

PRIMARY SKIN IRRITATION INDEX: 0 - no effect (rabbits - per 16 CFR §1500.41)

SKIN: No known adverse effects to humans with intact skin. May be absorbed through damaged skin.

CORROSIVE: This product is non-corrosive.

INHALATION: May cause sneezing and coughing if exposed to high concentrations (>10 mg/m<sup>3</sup>).

**EFFECTS OF CHRONIC OVEREXPOSURE**

INGESTION: Animal testing for carcinogenicity of boric acid has been negative.

Animal studies show that ingestion of large amounts of borates over prolonged periods of time causes a decrease in sperm production and testicle size in male laboratory animals and developmental effects in fetuses of pregnant female laboratory animals. No evidence of such effects in humans.

EYE: Possible irritant to human eye.

DERMAL: No evidence of effect from exposure on intact human skin.

INHALATION: As with any nuisance dusts, may aggravate chronic respiratory ailments such as asthma, bronchitis, etc.

UNITED STATES BORAX & CHEMICAL CORPORATION - 3075 WILSHIRE BLVD., LOS ANGELES, CA 90010-1294

**USBORAX**

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Borax

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**HEALTH HAZARD INFORMATION (cont. from page 2)****REGULATORY INFORMATION**OSHA PERMISSIBLE EXPOSURE LIMIT (PEL): 10 mg/m<sup>3</sup>

29CFR§1910 SUBPART Z

ACGIH RECOMMENDED THRESHOLD LIMIT VALUE: 5 mg/m<sup>3</sup>CAL OSHA PERMISSIBLE EXPOSURE LIMIT (PEL): 5 mg/m<sup>3</sup>

NOT LISTED IN THE NATIONAL TOXICOLOGY PROGRAM ANNUAL REPORT ON CARCINOGENS (1989)

NOT LISTED IN THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) MONOGRAPH

NOT LISTED ON THE OSHA CARCINOGENS LIST

**EMERGENCY AND FIRST AID PROCEDURES:**

EYES: Flush with tepid water for 15 minutes. Consult a physician.

SKIN: Rinse with water.

INHALATION: Remove to fresh air.

INGESTION: Drink large amounts of water or milk. Consult a physician.

**NOTE TO PHYSICIAN:**

Gastric lavage with 5% sodium bicarbonate is suggested. This should be followed by saline catharsis. Assure adequate hydration. Borax is not considered an acute poison. After ingestion or absorption into the bloodstream of large amounts (15 grams or more), symptoms may appear after 24-72 hours. Borates are readily dissipated through the urine (70% in the first 24 hours). Complimentary blood analysis is available for physicians and emergency rooms. Medical consultation is also available. Call (714) 774-2673.

UNITED STATES BORAX &amp; CHEMICAL CORPORATION - 2076 WILSHIRE BLVD., LOS ANGELES, CA 90010-1294

**USBORAX**

BORAX

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LIMERICK CHEMISTRY PAGE.012

**SECTION V - FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT (METHOD USED): N/A

FLAMMABLE LIMITS: N/A

EXTINGUISHING MEDIA: None required. Product is an inherent fire retardant.

SPECIAL FIREFIGHTING PROCEDURES: None are required. No potential for fire or explosion hazard. Product is an inherent fire retardant.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

**SECTION VI - REACTIVITY DATA**

STABILITY: Borax is a stable product.

INCOMPATIBILITY (MATERIALS TO AVOID): Elemental Zirconium (hot)

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Contact with elemental zirconium (mixture explodes when heated).

**SECTION VII - SPILL OR LEAK PROCEDURES**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep or vacuum followed by water rinse.

WASTE DISPOSAL METHOD: Refer to local disposal requirements and regulations for waste disposal methods. Not regulated under §313 of SARA Title III or RCRA (40 CFR 261.33)

UNITED STATES BORAX &amp; CHEMICAL CORPORATION - 2075 WILSHIRE BLVD., LOS ANGELES, CA 90010-1294

**USBORAX**

Borax

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**SECTION VIII - SPECIAL PROTECTION INFORMATION**

RESPIRATOR PROTECTION (SPECIFY TYPE): Recommend use of light duty dust mask (such as 3M Model 5800) in areas of airborne concentrations greater than 10mg/m<sup>3</sup>.

VENTILATION: Local exhaust is sufficient.

PROTECTIVE GLOVES: None needed unless skin is abraded. Leather, cloth or rubber gloves.

EYE PROTECTION: Avoid eye contact. To avoid eye contact, dust goggles are recommended in areas of high airborne concentrations.

OTHER PROTECTIVE EQUIPMENT: None

**SECTION IX - SPECIAL PRECAUTIONS**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Dry indoor storage.

OTHER PRECAUTIONS: Retain package integrity.

DATE: Aug 31, 1990 SIGNATURE: \_\_\_\_\_

*Philip L. Strong*

P.L. Strong, Manager, Product Safety

UNITED STATES BORAX & CHEMICAL CORPORATION • 3075 WILSHIRE BLVD., LOS ANGELES, CA 90010-1294

**USBORAX**

Borax

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