M A T E R I A L  S A F E T Y  D A T A  S H E E T

SECTION 1. - - - - - - - CHEMICAL IDENTIFICATION - - - - - - -

CATALOG #:  B9876
NAME:  BORAX SIGMA GRADE

SECTION 2. - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - -
CAS #:  1303-96-4
MF:  B4Na2O7

SYNONYMS
ANTIBORON * BORASCU * BORATES, TETRA, SODIUM SALT, DECAHYDRATE
(ACG1H) * BORAX (8CI) * BORAX DECAHYDRATE * BORICIN * GERTLEY BORATE
* JAIKIN * NEOBOR * POLYBOR * SODIUM BIBORATE * SODIUM BIBORATE
DECAHYDRATE * SODIUM PYROBORATE * SODIUM PYROBORATE DECAHYDRATE *
SODIUM TETRABORATE * SODIUM TETRABORATE DECAHYDRATE * TRONBOR *

SECTION 3. - - - HAZARDS IDENTIFICATION - - -

LABEL PRECAUTIONARY STATEMENTS
HARMFUL
HARMFUL IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
TARGET ORGAN(S):  CENTRAL NERVOUS SYSTEM
KIDNEYS
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - - FIRST-AID MEASURES - - - - - - -
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF
WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS
AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - - FIRE FIGHTING MEASURES - - - - - -

EXTINGUISHING MEDIA
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.

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CATALOG #: B9876 
NAME: BORAX SIGMA GRADE 

UNUSUAL FIRE AND EXPLOSIONS HAZARDS 
EMITS TOXIC FUMES UNDER FIRE CONDITIONS. 

SECTION 6. ACCIDENTAL RELEASE MEASURES: 
EVACUATE AREA. 
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES. 
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. 
AVOID RAISING DUST. 
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE. 

SECTION 7. HANDLING AND STORAGE: 
REFER TO SECTION 8. 

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION: 
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING. 
SAFETY SHOWER AND EYE BATH. 
MECHANICAL EXHAUST REQUIRED. 
DO NOT BREATHE DUST. 
AVOID CONTACT WITH EYES, SKIN AND CLOTHING. 
AVOID PROLONGED OR REPEATED EXPOSURE. 
WASH THOROUGHLY AFTER HANDLING. 
HARMFUL SOLID. 
IRRITANT. 
KEEP TIGHTLY CLOSED. 
STORE IN A COOL DRY PLACE. 

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES: 
APPEARANCE AND ODOR: WHITE POWDER 
PHYSICAL PROPERTIES: SPECIFIC GRAVITY: 1.730 

SECTION 10. STABILITY AND REACTIVITY: 
INCOMPATIBILITIES: STRONG OXIDIZING AGENTS SENSITIVE TO AIR 
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: BORON OXIDES. 

SECTION 11. TOXICOLOGICAL INFORMATION: 

ACUTE EFFECTS 

CONTINUED ON NEXT PAGE
M A T E R I A L  S A F E T Y  D A T A  S H E E T

CATALOG #: B9876
NAME: BORAX SIGMA GRADE

HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF INHALED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
CAUSES EYE AND SKIN IRRITATION.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
TARGET ORGAN(S): CENTRAL NERVOUS SYSTEM; KIDNEYS

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

ADDITIONAL INFORMATION
INGESTION OF 5-10 GRAMS HAS PRODUCED SEVERE VOMITING, DIARRHEA, SHOCK AND DEATH.

RTECS #: VZ2275000
SODIUM BORATE, DECAHYDRATE

TOXICITY DATA

<table>
<thead>
<tr>
<th>OEL-Inf</th>
<th>LDLO: 1 GM/KG</th>
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<tbody>
<tr>
<td>OEL-Man</td>
<td>LDLO: 709 MG/KG</td>
</tr>
<tr>
<td>OEL-Rat</td>
<td>LD50: 2660 MG/KG</td>
</tr>
<tr>
<td>OEL-Mus</td>
<td>LD50: 2 GM/KG</td>
</tr>
<tr>
<td>IP-Rat</td>
<td>LD50: 2711 MG/KG</td>
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<tr>
<td>IV-Mus</td>
<td>LD50: 1320 MG/KG</td>
</tr>
<tr>
<td>ORL-GPC</td>
<td>LD50: 5330 MG/KG</td>
</tr>
</tbody>
</table>

TARGET ORGAN DATA

BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
CARDIAC (CHANGE IN RATE)
GASTROINTESTINAL (NAUSEA OR VOMITING)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. ECOLOGICAL INFORMATION

DATA NOT YET AVAILABLE.

SECTION 13. DISPOSAL CONSIDERATIONS

FOR SMALL QUANTITIES: CAUTIOSLY ADD TO A LARGE STIRRED EXCESS OF WATER. ADJUST THE PH TO NEUTRAL, SEPARATE ANY INSOLUBLE SOLIDS OR LIQUIDS AND PACKAGE THEM FOR HAZARDOUS-WASTE DISPOSAL. FLUSH THE ACIDOUS SOLUTION DOWN THE DRAIN WITH PLENTY OF WATER. THE HYDROLYSIS AND NEUTRALIZATION REACTIONS MAY GENERATE HEAT AND FUMES WHICH CAN BE CONTROLLED BY THE RATE OF ADDITION.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. TRANSPORT INFORMATION

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

CONTINUED ON NEXT PAGE
MATERIAL SAFETY DATA SHEET

CATALOG #: B9876
NAME: BORAX SIGMA GRADE

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - -

EUROPEAN INFORMATION

CAUTION: SUBSTANCE NOT YET FULLY TESTED.
HARMFUL
R 22
HARMFUL IF SWALLOWED.
R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

OE1-MAK
ACGIH TLV-TWA 5 MG/M3 85INA8 6,141,91
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
FREETAC 54, 7740,89
OE1-AUSTRALIA: TWA 5 MG/M3 JAN93
OE1-BELGIUM: TWA 5 MG/M3 JAN93
OE1-DENMARK: TWA 5 MG/M3 JAN93
OE1-FRANCE: TWA 5 MG/M3 JAN93
OE1-THE NETHERLANDS: TWA 5 MG/M3 JAN93
OE1-SWEDEN: TWA 2 MG/M3; STEL 5 MG/M3; SKIN JAN93
OE1-SWITZERLAND: TWA 5 MG/M3 JAN93
OE1-UNITED KINGDOM: TWA 5 MG/M3 JAN93
OE1 IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OE1 IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO BORATES, DECAYDRATE-AIR: 10H TWA 5 MG/M3
NIOSH* DEHS #92-100,92
NOES 1983: HZD T1956; NIS 196; TNC 29342; NOS 132; TNE 442072; TFE
88846
NOES 1983: HZD X6986; NIS 3; TFC 143; NOS 4; TNE 1615; TFE 53
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1995

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - -

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WHITEWATER WI 53190