

BIO-DEX LABORATORIES
4212 W. INNOVATIVE DR.
PHOENIX, ARIZONA 85086
623-582-2400

For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300

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The Version Date and Number for this MSDS is : 12/15/2010 - #001

PRODUCT NAME: BIO-DEX
 CHLOR-EX CHLORINE REMOVER

CHEMICAL NAME: SODIUM THIOSULFATE ANHYDROUS AND SODIUM
 THIOSULFATE PENTAHYDRATE

MSDS NUMBER: 67671

DATE ISSUED: 09/01/2004

SUPERSEDES: NEW

ISSUED BY: 001487

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAMES:
SODIUM THIOSULFATE ANHYDROUS AND SODIUM THIOSULFATE PENTAHYDRATE

OTHER/GENERIC NAMES: Sodium Thiosulfate Anhydrous, Sodium Hyposulfite;
"hypo"; Sodium Thiosulfate Crystal; Prismatic Rice

PRODUCT USE: Photo processing, water treatment, waste treatment, paper
manufacture, other industrial processes.

Distribution:
BIO-DEX LABORATORIES
4212 W. INNOVATIVE DR.
PHOENIX, ARIZONA 85086
800-647-3477

FOR EMERGENCY IN USA, CALL CHEMTREC: 800-424-9300

(24 Hours/Day, 7 Days/Week)

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NUMBER	WEIGHT %
Sodium thiosulfate	7772-98-7	>98 (anhydrous)
Sodium thiosulfate pentahydrate	10102-17-7	>99 (pentahydrate)

Trace impurities and additional material names not listed above may appear in Section 15 of this MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

OSHA Hazard Communication Standard: This product is considered hazardous under the OSHA Hazard Communication Standard.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Odorless, clear to white crystals or granules which may irritate the skin and respiratory tract. May cause irritation and/or burns to the eyes. Reacts with acids to form toxic and irritating sulfur dioxide gas and/or hydrogen sulfide gas. Not flammable.

POTENTIAL HEALTH HAZARDS

SKIN: Dust, solutions or mist may cause skin irritation from repeated or prolonged contact.

EYES: Dust, solutions or mist may irritate or burn the eyes and cause temporary conjunctivitis.

INHALATION: Inhalation of product dust or mist may irritate the respiratory tract. Contact with acids releases sulfur dioxide and/or hydrogen sulfide gas which may be harmful or deadly if inhaled.

INGESTION: Ingestion may cause irritation of the gastrointestinal tract and purging, if a large quantity is ingested. Relatively low in acute toxicity.

DELAYED EFFECTS: None known.

Ingredients found on one of the three OSHA designated carcinogen lists are listed below.

INGREDIENT NAME	NTP STATUS	IARC STATUS	OSHA LIST No
ingredients listed in this section.			

4. FIRST AID MEASURES

SKIN: Wash skin with plenty of soap and water. Remove contaminated clothing and wash before reuse. Get medical attention if irritation persists.

EYES: Flush eyes immediately with water for at least 15 minutes. Get medical attention if irritation persists.

INHALATION: Promptly remove to fresh air. If breathing is difficult, give

oxygen, provided a qualified operator is available. If symptoms persist, get medical attention.

INGESTION: If conscious, immediately give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. If irritation persists, get medical attention.

ADVICE TO PHYSICIAN: Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT:	Not flammable
FLASH POINT METHOD:	Not applicable
AUTOIGNITION TEMPERATURE:	Not applicable
UPPER FLAME LIMIT (volume % in air):	Not applicable
LOWER FLAME LIMIT (volume % in air):	Not applicable
FLAME PROPAGATION RATE (solids):	Not applicable
OSHA FLAMMABILITY CLASS:	Not applicable

EXTINGUISHING MEDIA:

Material is not flammable. Use extinguishing media appropriate for material in surrounding fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:

Wear NIOSH-approved self-contained breathing apparatus to protect against any release of toxic and/or irritating fumes. Skin and eye protection should also be provided. Use water-spray to keep fire-exposed containers cool, and to knock down fumes.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (See section 8 for recommended personal protective equipment.) Promptly shovel or sweep up material with minimum dusting and shovel into an empty container with a cover. Cautiously spray residue with plenty of water.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

7. HANDLING AND STORAGE

NORMAL HANDLING: (See section 8 for recommended personal protective equipment.)

Avoid contact with skin, eyes and clothing. Do not breathe dust or mist. Use with adequate ventilation. Wash thoroughly after handling.

If dissolving and mixing solutions: with anhydrous material, the reaction is exothermic and the solution will retain heat; with the hydrate (crystal) material, the reaction is endothermic and the solution will cool.

STORAGE RECOMMENDATIONS:

Store in a cool, dry, well-ventilated area away from acids and oxidizing agents. Keep container closed when not in use and protect from physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide local exhaust if dusty or misty conditions exist or if there is a release of sulfur dioxide and/or hydrogen sulfide gas. Keep incompatible materials out of hoods, ducts, etc.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION: For handling dry material, wear cotton gloves and full work clothing, including long-sleeved shirt and trousers. When handling solutions, wear impervious gloves and an apron. If contact with the solution is repeated and/or prolonged, wear full impervious clothing.

EYE PROTECTION: Wear a hard hat (or other head covering) and chemical safety glasses/goggles. Do not wear contact lenses.

RESPIRATORY PROTECTION: Where required, use a NIOSH-approved respirator for dust, mist, sulfur dioxide and/or hydrogen sulfide gas, as conditions indicate. If sulfur dioxide and/or hydrogen sulfide gas should be released, use a NIOSH-approved self-contained breathing apparatus or supplied-air respirator.

ADDITIONAL RECOMMENDATIONS: Eyewash and safety shower are recommended.

EXPOSURE GUIDELINES

INGREDIENT NAME	ACGIH TLV	OSHA PEL	OTHER LIMIT
No ingredients listed in this section.			

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:

Sulfur dioxide: OSHA TWA = 5 ppm;

ACGIH TLV = 2 ppm;

ACGIH STEL = 5 ppm.

Hydrogen sulfide:

OSHA Ceiling = 20 ppm;

ACGIH TLV = 10 ppm;

ACGIH STEL = 15 ppm.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear to White granules or crystals.

PHYSICAL STATE: Solid.

MOLECULAR WEIGHT: 158.11 (anhydrous)
248.18 (pentahydrate)

CHEMICAL FORMULA: Na₂S₂O₃ (anhydrous)

HYDRATED FORMULA: Na₂S₂O₃ 5H₂O (pentahydrate)

ODOR: Odorless.

SPECIFIC GRAVITY (water = 1.0): 1.667 (anhydrous)

1.685 (pentahydrate)

SOLUBILITY IN WATER (weight = 33 @ 0 deg. C (anhydrous
1.0) 52 @ 0 deg. C (pentahydrate)
pH: -8.6 (7.5% solution; anhydrous)
BOILING POINT: Not applicable.
MELTING POINT: 48 deg C (pentahydrate)
VAPOR PRESSURE: Not applicable.

VAPOR DENSITY (air = 1.0): Not applicable.
EVAPORATION RATE: Not applicable. COMPARED TO:

Not applicable.
% VOLATILES: Not applicable.
FLASH POINT: Not flammable.
(Flash point method and additional flammability data are found in Section 5.)

10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID):
Normally stable.

INCOMPATIBILITIES:
Strong oxidizers: causes vigorous exothermic reactions.
Acids: releases sulfur dioxide and/or hydrogen sulfide gas.

HAZARDOUS DECOMPOSITION PRODUCTS:
Sulfur dioxide gas, hydrogen sulfide gas and sodium sulfide residue.

HAZARDOUS POLYMERIZATION:
Will not occur.

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:
Data not available.

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:
Data not available.

OTHER DATA:
None.

12. ECOLOGICAL INFORMATION

Data not available.

13. DISPOSAL CONSIDERATIONS

RCRA
Is the unused product a RCRA hazardous waste if discarded? No If yes, the RCRA ID number is: Not applicable.

OTHER DISPOSAL CONSIDERATIONS:
Dispose of in accordance with applicable Federal, State and Local regulations.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT HAZARD CLASS: Not regulated.

US DOT ID NUMBER: Not applicable.

PROPER SHIPPING NAME: Not applicable.

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: All components are listed on TSCA Inventory of Chemical Substances.

OTHER TSCA ISSUES: None.

SARA TITLE III/CERCLA

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

INGREDIENT NAME	SARA/CERCLA RQ (lb)	SARA EHS TPQ (lb)
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No ingredients listed in this section.

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: Immediate.

SARA 313 TOXIC CHEMICALS:

The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements. CAS numbers and weight percents are found in Section 2.

INGREDIENT NAME	COMMENT
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No ingredients listed in this section.

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

INGREDIENT NAME	WEIGHT %	COMMENT
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No ingredients listed in this section.

ADDITIONAL REGULATORY INFORMATION:

None

WHMIS CLASSIFICATION (CANADA):
D2B

FOREIGN CHEMICAL CONTROL INVENTORY STATUS:
Listed on Canadian DSL and EU EINECS.

OTHER INFORMATION: This product is not for food or drug use.

For Additional Information:
Contact: MSDS Coordinator - BIO-DEX LABORATORIES
During business hours, Pacific Time -623-582-2400

NOTICE
BIO-DEX LABORATORIES expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local BIO-DEX LABORATORIES Sales Office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, BIO-DEX LABORATORIES makes no representations as to its accuracy or sufficiency. Conditions of use are beyond BIO-DEX LABORATORIES control. Therefore, users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes, and they assume all risks of their use, handling, and disposal of the product or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein and does not relate to its use in combination with any other material or in any other process.

END OF MSDS