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Title: Material Safety Data Sheet SODIUM SULFIDE		Prepared by: Clare Welker Approved by: Clare Welker	

CS14500

(MID) Material Identification:

MATERIAL SAFETY DATA SHEET
SODIUM SULFIDE, HYDRATED

SECTION I - PRODUCT IDENTIFICATION

EMERGENCY CONTACT: CHEMTREC 1-800-424-9300 NOTE: EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE.

PRODUCT NAME: SODIUM SULFIDE, HYDRATED
 COMMON SYNONYMS: SODIUM MONOSULFIDE
 CHEMICAL FAMILY: SULFUR COMPOUNDS
 FORMULA: NA2S
 FORMULA WT.: 78.05
 CAS NO.: 1313-82-2
 NIOSH/RTECS NO.: WE1925000
 PRODUCT USE: Commercial Use

(PHAZ) Primary Hazards:

PRECAUTIONARY LABELING

HEALTH - 2 MODERATE
 FLAMMABILITY - 2 MODERATE
 REACTIVITY - 1 SLIGHT
 CONTACT - 4 EXTREME (CORROSIVE)

LABORATORY PROTECTIVE EQUIPMENT: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

U.S. PRECAUTIONARY LABELING
DANGER

CAUSES SEVERE BURNS. HARMFUL IF SWALLOWED OR INHALED. CONTACT WITH ACID LIBERATES POISONOUS GAS. KEEP AWAY FROM HEAT, SPARKS, FLAME. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. AVOID BREATHING DUST. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, SOAK WITH WATER. IN CASE OF SPILL, SWEEP UP AND REMOVE. FLUSH SPILL AREA WITH WATER.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

(COMP) Components:

SECTION II - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
SODIUM SULFIDE, HYDRATED (38% WATER OF CRYSTALLIZATION)	1313-82-2	100	N/E	N/E

(PHYS) Physical Properties:

SECTION III - PHYSICAL DATA

BOILING POINT: 174 C (345 F) (AT 760 MM HG) VAPOR PRESSURE (MMHG): N/A
MELTING POINT: 92 C (197 F) (AT 760 MM HG) VAPOR DENSITY (AIR=1): N/A
SPECIFIC GRAVITY: 1.86 (H2O=1) EVAPORATION RATE: N/A
SOLUBILITY (H2O): APPRECIABLE (>10%) * VOLATILES BY VOLUME: 0 (21 C)
PH: 13.5 (10% SOLUTION) ODOR THRESHOLD (P.P.M.): N/A PHYSICAL STATE: SOLID
COEFFICIENT WATER/OIL DISTRIBUTION: N/A
APPEARANCE & ODOR: WHITE TO YELLOW CRYSTALS. SULFUR DIOXIDE ODOR.
(HAZ) Fire Hazards:

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A
AUTOIGNITION TEMPERATURE: N/A
FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINGUISHING MEDIA

USE WATER SPRAY.

SPECIAL FIRE-FIGHTING PROCEDURES

FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

UNUSUAL FIRE & EXPLOSION HAZARDS

GIVES OFF FLAMMABLE VAPORS. VAPORS MAY FORM EXPLOSIVE MIXTURE WITH AIR. CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE.

TOXIC GASES PRODUCED

HYDROGEN SULFIDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT

NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

NONE IDENTIFIED.

(HAZH) Health Hazards:

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED
SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED
PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

INTRAPERITONEAL MOUSE LD50 FOR SODIUM SULFIDE, 9-HYDRATE 53 MG/KG
CARCINOGENICITY: NTP: NO IARC: NO 2 LIST: NO OSHA REG: NO

CARCINOGENICITY

NONE IDENTIFIED.

REPRODUCTIVE EFFECTS

NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE:

INHALATION: IRRITATION OF UPPER RESPIRATORY TRACT
SKIN CONTACT: SEVERE BURNS
EYE CONTACT: SEVERE BURNS
SKIN ABSORPTION: MAY BE HARMFUL
INGESTION: SEVERE BURNS TO MOUTH, THROAT, AND STOMACH, NAUSEA,
VOMITING, DIARRHEA
CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS: EYES, SKIN

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
RESPIRATORY SYSTEM DISEASE, CENTRAL NERVOUS SYSTEM DISORDERS

PRIMARY ROUTES OF ENTRY: INHALATION, INGESTION, ABSORPTION, SKIN CONTACT, EYE CONTACT

(AID) First Aid:

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING. IF
CONSCIOUS, GIVE WATER, MILK, OR MILK OF MAGNESIA.
INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE
ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE
OXYGEN.
SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF
WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
CLOTHING AND SHOES. WASH CLOTHING BEFORE RE-USE.
EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF
WATER FOR AT LEAST 15 MINUTES.

(REGS) Regulations:

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

(HAZR) Hazardous Reactions:

SECTION VI - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVQID: HEAT, FLAME, OTHER SOURCES OF IGNITION
INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG ACIDS, MOST COMMON
METALS
DECOMPOSITION PRODUCTS: HYDROGEN SULFIDE

(SPIL) Spillage Disposal:

SECTION VII - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE:
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. SHUT
OFF IGNITION SOURCES; NO FLARES, SMOKING, OR FLAMES IN AREA. WITH CLEAN
SHOVEL, CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER;
REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.
DISPOSAL PROCEDURE: DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND
LOCAL ENVIRONMENTAL REGULATIONS. EPA HAZARDOUS WASTE NUMBER: D002 (CORROSIVE WASTE)

(EQP) Protective Equipment:

SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO
KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.
RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS
EXIST. IF AIRBORNE CONCENTRATION IS HIGH, A DUST/MIST
RESPIRATOR IS RECOMMENDED. IF CONCENTRATION EXCEEDS
CAPACITY OF RESPIRATOR, A SELF-CONTAINED BREATHING
APPARATUS IS ADVISED.
EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, APRON, NEOPRENE GLOVES ARE RECOMMENDED.

(STOR) Storage Procedures:

SECTION IX - STORAGE AND HANDLING PRECAUTIONS

STORAGE CODE: (STORE SEPARATELY)

STORAGE REQUIREMENTS: KEEP CONTAINER TIGHTLY CLOSED. STORE IN COOL, DRY, WELL-VENTILATED AREA AWAY FROM HEAT, SPARKS, OR FLAME. ISOLATE FROM INCOMPATIBLE MATERIALS.

(TRAN) Transportation Information:

SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: SODIUM SULFIDE, HYDRATED with not less than 30 % water.

HAZARD CLASS: CORROSIVE MATERIAL (SOLID)

UN/NA: UN1849

LABELS: CORROSIVE

REGULATORY REFERENCES: 49CFR 172.101; 173.245; 173.245B

HM181 OCT1/93:

PROPER SHIP NAME: SODIUM SULFIDE, HYDRATED WITH AT LEAST 30% WATER

HAZARD CLASS: 8 (CORROSIVE)

UN/NA: UN1849 PACKAGING GROUP: II

LABELS: CORROSIVE

REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: SODIUM SULFIDE, HYDRATED (30% WATER MIN)

HAZARD CLASS: 8

UN: UN1849 MARINE POLLUTANTS: NO

I.M.O. PAGE: 8217

PACKAGING GROUP: II

LABELS: CORROSIVE

REGULATORY REFERENCES: 49CFR 172.102; PART 176; IMO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: SODIUM SULFIDE, HYDRATED (30% WATER MIN)

HAZARD CLASS: 8

UN: UN1849

PACKAGING GROUP: II

LABELS: CORROSIVE

REGULATORY REFERENCES: 49CFR 172.101; 173.6; PART 175; ICAO/IATA

U.S. CUSTOMS HARMONIZATION NUMBER: 2830100000

N/A = NOT APPLICABLE OR NOT AVAILABLE N/E = NOT ESTABLISHED

DISCLAIMER:

WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT AS A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH THE COMPANY ASSUMES LEGAL RESPONSIBILITY. THE INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION, AND VERIFICATION. ANY USE OF THE INFORMATION MUST BE DETERMINED BY THE USER TO BE IN ACCORDANCE WITH APPLICABLE INTERNATIONAL, FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS UNDER IMO, IATA, AND 49CFR 172.3 AND EMPLOYEE TRAINING 49CFR 173.1. THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET WAS PREPARED FROM INFORMATION RETRIEVED ON THE CHEMICAL INFORMATION SYSTEM AS PROVIDED BY CIS, INC. AND MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES. EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, SUPPLIER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. SUPPLIER DISCLAIMS ANY WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREBUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE. THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEeded. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, SUPPLIER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE.