PRODUCT #: 215198 NAME: SULFUR, POWDER, -100 MESH, REFINED MATERIAL SAFETY DATA SHEET, Valid 11/97 - 1/98

Printed Tuesday, March 18, 1903 2:13PM

Aldrich Chemical Co., Inc. Fluka Chemical Corp. Sigma Chemical Co. P.O. Box 14508 1001 West St. Paul 1001 West St. Paul St. Louis, MO 63178 Milwaukee, WI 53233 Milwaukee, WI 53233 Phone: 314-771-5765 Phone: 414-273-3850 Phone: 414-273-3850 SECTION 1. - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - -CATALOG #: 215198 NAME: SULFUR, POWDER, -100 MESH, REFINED SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -CAS #: 7704-34-9 MF: S EC NO: 231-722-6 SYNONYMS AGRI-SUL * ASULFA-SUPRA * ATOMIC SULFUR * BENSULFOID * BRIMSTONE * COLLOKIT * COLLOIDAL SULFUR * COLSUL * COROSUL D AND S * COSAN * COSAN 80 * CRYSTEX * DEVISULPHUR * ELOSAL * FLOUR SULPHUR * FLOWERS OF SULPHUR * GOFRATIV * GROUND VOCLE SULPHUR * HEXASUL * KOLOFOG * KOLOSPRAY * KRISTEX * KUMULUS * KUMULUS FL * MAGNETIC 70, 90, AND 95 * MICOWETSULF * MICROFLOTOX * MICROTHIOL * NA1350 (DOT) * NA2448 (DOT) * PRECIPITATED SULFUR * SOFRIL * SPERLOX-S * SPERSUL * SPERSUL THIOVIT * SUBLIMED SULFUR * SUFRAN * SUFRAN D * SULFEX * SULFIDAL * SULFORON * SULFUR (UN1350, NA1350) (DOT) * SULFUR, MOLTEN (UN2448, NA2448) (DOT) * SULKOL * SULPHUR * SUPER COSAN * SULSOL * TECHNETIUM TC 99M SULFUR COLLOID * TESULOID * THIOLUX * THIOVIT * THIOVIT S * THIOZOL * ULTRA SULFUR * UN2448 (DOT) * UN1350 (DOT) * WETTASUL * SECTION 3. - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - -LABEL PRECAUTIONARY STATEMENTS IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. WEAR SUITABLE GLOVES AND EYE/FACE PROTECTION. SECTION 4. - - - - - - - - FIRST-AID MEASURES- - - - - - - - -CONTAMINATION OF THE EYES SHOULD BE TREATED BY IMMEDIATE AND PROLONGED IRRIGATION WITH COPIOUS AMOUNTS OF WATER. ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS. 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. REMOVE AND WASH CONTAMINATED CLOTHING PROMPTLY. SECTION 5. - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - -EXTINGUISHING MEDIA WATER SPRAY. 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. UNUSUAL FIRE AND EXPLOSIONS HAZARDS THIS MATERIAL, LIKE MOST MATERIALS IN POWDER FORM, IS CAPABLE OF

CREATING A DUST EXPLOSION.

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EMITS TOXIC FUMES UNDER FIRE CONDITIONS. SECTION 6. - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - -EVACUATE AREA. WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. WEAR DISPOSABLE COVERALLS AND DISCARD THEM AFTER USE. 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- - - - -CHEMICAL SAFETY GOGGLES. NIOSH/MSHA-APPROVED RESPIRATOR. LONG RUBBER OR NEOPRENE GAUNTLET GLOVES. IMPERVIOUS PROTECTIVE CLOTHING. SAFETY SHOWER AND EYE BATH. MECHANICAL EXHAUST REQUIRED. DO NOT BREATHE DUST. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. WASH THOROUGHLY AFTER HANDLING. AVOID PROLONGED OR REPEATED EXPOSURE. IRRITANT. KEEP TIGHTLY CLOSED. SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -APPEARANCE AND ODOR YELLOW POWDER PHYSICAL PROPERTIES AUTOIGNITION TEMPERATURE: 374 F VAPOR PRESSURE: 10MM 246 C 1MM 183.8 C SPECIFIC GRAVITY: 2.070 VAPOR DENSITY: 8.9 INCOMPATIBILITIES OXIDIZING AGENTS MOTSTURE HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS TOXIC FUMES OF: SULFUR OXIDES SECTION 11. - - - - - - TOXICOLOGICAL INFORMATION - - - - - -ACUTE EFFECTS MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION. CAUSES EYE AND SKIN IRRITATION. MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT. SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING. EXPOSURE CAN CAUSE: DERMATITIS TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. RTECS #: WS4250000 SULFUR IRRITATION DATA ANCHAM 21,1411,1949 EYE-HMN 8 PPM

TOXICITY DATA

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IHL-MAM LC50:1660 MG/M3
                                                 GTPZAB 34(12),8,1990
   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 - - - - - - - -
   THE MATERIAL SHOULD BE IGNITED IN THE PRESENCE OF SODIUM CARBONATE
   AND SLAKED LIME (CALCIUM HYDROXIDE). THE SUBSTANCE SHOULD BE MIXED
   WITH VERMICULITE AND THEN WITH THE DRY CAUSTICS, WRAPPED IN PAPER AND
   BURNED IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER
   AND SCRUBBER.
   OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.
SECTION 14. - - - - - - - - TRANSPORT INFORMATION - - - - - - - -
   CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.
SECTION 15. - - - - - - REGULATORY INFORMATION - - - - - - - -
 EUROPEAN INFORMATION
   IRRITANT
   R 36/37/38
   IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
   IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
   WATER AND SEEK MEDICAL ADVICE.
   S 37/39
   WEAR SUITABLE GLOVES AND EYE/FACE PROTECTION.
 REVIEWS, STANDARDS, AND REGULATIONS
   OEL=MAK
   EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
    FEREAC 54,7740,1989
   NOHS 1974: HZD 70845; NIS 211; TNF 21906; NOS 130; TNE 325858
   NOES 1983: HZD X1207; NIS 3; TNF 145; NOS 3; TNE 156
   NOES 1983: HZD X4235; NIS 1; TNF 6; NOS 1; TNE 86; TFE 6
   NOES 1983: HZD X4236; NIS 3; TNF 238; NOS 7; TNE 1644; TFE 52
   NOES 1983: HZD 70845; NIS 240; TNF 30280; NOS 157; TNE 599268; TFE
    93685
   EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
   EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
   EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, APRIL 1997
SECTION 16. - - - - - - - - OTHER INFORMATION- - - - - - - - - - -
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   FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING
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