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Riedel-de Haen

3050 Spruce St.

St. Louis, MO 63178 USA

Tel: 314-289-6000

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 #: 38060

NAME: IODINE (I2) 0.05 MOL (FIXANAL)

(12,690 G I2 + 20 G KI)

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

CAS #: NONE

EC NO: 231--44-2

SYNONYMS

IODE (FRENCH) * IODINE (ACGIH:OSHA) * IODINE CRYSTALS * IODINE

SUBLIMED * IODIO (ITALIAN) * JOD (GERMAN, POLISH) * JOOD (DUTCH) *

SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

HIGHLY TOXIC (USA)

TOXIC (EU)

MAY CAUSE HARM TO THE UNBORN CHILD.

TOXIC IN CONTACT WITH SKIN AND IF SWALLOWED.

CAUSES BURNS.

MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

SEVERE LACHRYMATOR.

TARGET ORGAN(S):

THYROID

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE

IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF

WATER AND SEEK MEDICAL ADVICE.

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE

PROTECTION.

SECTION 4. ----- FIRST-AID MEASURES -----

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.

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

SPECIAL FIREFIGHTING PROCEDURES

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

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.

COVER WITH DRY LIME OR SODA ASH, PICK UP, KEEP IN A CLOSED CONTAINER AND HOLD FOR WASTE DISPOSAL.

EVACUATE AREA.

SECTION 7. ----- HANDLING AND STORAGE-----

REFER TO SECTION 8.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

SAFETY SHOWER AND EYE BATH.

USE ONLY IN A CHEMICAL FUME HOOD.

WASH THOROUGHLY AFTER HANDLING.

DISCARD CONTAMINATED CLOTHING AND SHOES.

DO NOT BREATHE VAPOR.

DO NOT GET IN EYES, ON SKIN, ON CLOTHING.

AVOID PROLONGED OR REPEATED EXPOSURE.

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.

KEEP TIGHTLY CLOSED.

STORE IN A COOL DRY PLACE.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

PHYSICAL PROPERTIES

BOILING POINT: 184,4 C

MELTING POINT: 113,5 C

VAPOR PRESSURE: 0,31 MMHG

SPECIFIC GRAVITY: 4.93

VAPOR DENSITY: 9 G/L

SECTION 10. -----STABILITY AND REACTIVITY -----

INCOMPATIBILITIES

MAGNESIUM

ZINC

AMMONIA

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

ACUTE EFFECTS

MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.

MAY BE HARMFUL IF INHALED.

TOXIC IF SWALLOWED.

MAY CAUSE ALLERGIC REACTION.

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND

TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES

AND UPPER RESPIRATORY TRACT, EYES AND SKIN.

INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE

LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.

SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING,

WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND

VOMITING.

EXPOSURE CAN CAUSE:

STOMACH PAINS, VOMITING, DIARRHEA.

CHRONIC EFFECTS

MAY CAUSE CONGENITAL MALFORMATION IN THE FETUS.

TARGET ORGAN(S):

THYROID

RTECS #: NN1575000

IODINE

TOXICITY DATA

ORL-HMN LDLO:28 MG/KG 34ZIAG -,330,1969

UNR-MAN LDLO:29 MG/KG 85DCAI 2,73,1970

ORL-RAT LD50:14 GM/KG DRFUD4 4,876,1979

SCU-RAT LD50:10500 MG/KG NIIRDN -,1226,1990

ORL-MUS LD50:22 GM/KG DRFUD4 4,876,1979

SCU-MUS LD50:>8650 MG/KG NIIRDN -,1226,1990

ORL-RBT LD50:10 GM/KG DRFUD4 4,876,1979

TARGET ORGAN DATA

SENSE ORGANS AND SPECIAL SENSES (LACRIMATION)

BEHAVIORAL (SOMNOLENCE)

GASTROINTESTINAL (HYPERMOTILITY, DIARRHEA)

GASTROINTESTINAL (OTHER CHANGES)

ENDOCRINE (EVIDENCE OF THYROID HYPERFUNCTION)

EFFECTS ON NEWBORN (VIABILITY INDEX)

EFFECTS ON NEWBORN (GROWTH STATISTICS)

NUTRITIONAL AND GROSS METABOLIC (BODY TEMPERATURE DECREASE)

ADDITIONAL INFORMATION

SKN-RBT LD50: 220MG/KG.

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 -----

MATERIAL IN THE ELEMENTAL STATE SHOULD BE RECOVERED FOR REUSE OR
RECYCLING.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

EUROPEAN INFORMATION

EC INDEX NO: 053--00-1--0

TOXIC

R 20/21

HARMFUL BY INHALATION AND IN CONTACT WITH SKIN.

S 23

DO NOT BREATHE VAPOR.

S 23

DO NOT BREATHE FUMES.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

ACGIH TLV-CL 0.1 PPM DTLVS* TLV/BEI,1999

EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION

FEREAC 54,7740,1989

MSHA STANDARD:AIR-CL 0.1 PPM (1 MG/M3)

DTLVS* 3,135,1971

OSHA PEL (GEN INDU):CL 0.1 PPM (1 MG/M3)

CFRGBR 29,1910.1000,1994

OSHA PEL (CONSTRUC):CL 0.1 PPM (1 MG/M3)

CFRGBR 29,1926.55,1994

OSHA PEL (SHIPYARD):CL 0.1 PPM (1 MG/M3)

CFRGBR 29,1915.1000,1993

OSHA PEL (FED CONT):CL 0.1 PPM (1 MG/M3)

CFRGBR 41,50-204.50,1994

OEL-ARAB REPUBLIC OF EGYPT: TWA 0.1 PPM (0.1 MG/M3), JAN1993

OEL-AUSTRALIA: TWA 0.1 PPM (1 MG/M3), JAN1993

OEL-AUSTRIA: MAK 0,1 PPM (1 MG/M3), JAN1999

OEL-BELGIUM: STEL 0.1 PPM (1 MG/M3), JAN1993

OEL-DENMARK: TWA 0.1 PPM (1 MG/M3), JAN1999

OEL-FINLAND: STEL 0.1 PPM (1 MG/M3), SKIN, JAN1999

OEL-FRANCE: VLE 0.1 PPM (1 MG/M3), JAN1999

OEL-GERMANY: MAK 0.1 PPM (1 MG/M3), JAN1999

OEL-HUNGARY: TWA 1 MG/M3, STEL 2 MG/M3, JAN1993

OEL-JAPAN: OEL 0.1 PPM (1 MG/M3), JAN1999

OEL-THE NETHERLANDS: MAC-TGG 0.1 PPM (1 MG/M3), JAN1999

OEL-NORWAY: TWA 0.1 PPM (1 MG/M3), JAN1999

OEL-THE PHILIPPINES: TWA 0.1 PPM (1 MG/M3), JAN1993

OEL-POLAND: MAC(TWA) 1 MG/M3, JAN1999

OEL-RUSSIA: TWA 0.1 PPM, STEL 1 MG/M3, SKIN, JAN1993

OEL-SWEDEN: CEILING 0.1 PPM (1 MG/M3), JAN1999

OEL-SWITZERLAND: MAK-W 0.1 PPM (1 MG/M3), KZG-W 0.2 PPM, JAN1999

OEL-THAILAND: TWA 0.1 PPM (1 MG/M3), JAN1993

OEL-TURKEY: TWA 0.1 PPM (1 MG/M3), JAN1993

OEL-UNITED KINGDOM: STEL 0.1 PPM (1 MG/M3), JAN1993

OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV

NIOSH REL TO IODINE-AIR:CL 0.1 PPM

NIOSH* DHHS #92-100,1992

NOHS 1974: HZD 40030; NIS 51; TNF 7490; NOS 46; TNE 124917

NOES 1983: HZD 40030; NIS 63; TNF 6179; NOS 77; TNE 204902; TFE 129889

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 2000

NIOSH ANALYTICAL METHOD, 1994: IODINE, 6005

OSHA ANALYTICAL METHOD #ID-177

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

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