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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 #: 24125  
NAME: ISO-BUTANOL, 99%

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

CAS #: 78-83-1  
MF: C4H10O  
EC NO: 201-148-0

SYNONYMS

ALCOOL ISOBUTYLIQUE (FRENCH) \* FERMENTATION BUTYL ALCOHOL \* 1-  
HYDROXYMETHYLPROPANE \* ISOBUTANOL \* ISOBUTYL ALCOHOL (ACGIH:OSHA) \*  
ISOBUTYLALKOHOL (CZECH) \* ISOPROPYLCARBINOL \* 2-METHYL PROPANOL \* 2-  
METHYL-1-PROPANOL \* 2-METHYLPROPAN-1-OL \* 2-METHYLPROPYL ALCOHOL \* 1-  
PROPANOL, 2-METHYL- \* RCRA WASTE NUMBER U140 \*

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

LABEL PRECAUTIONARY STATEMENTS

FLAMMABLE  
IRRITANT  
IRRITATING TO RESPIRATORY SYSTEM AND SKIN.  
RISK OF SERIOUS DAMAGE TO EYES.  
VAPORS MAY CAUSE DROWSINESS AND DIZZINESS.  
TARGET ORGAN(S):  
NERVES  
LIVER

KEEP CONTAINER TIGHTLY CLOSED AND IN WELL-VENTILATED PLACE.  
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.  
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF  
WATER AND SEEK MEDICAL ADVICE.  
WEAR SUITABLE GLOVES AND EYE/FACE PROTECTION.  
IF SWALLOWED, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THIS  
CONTAINER OR LABEL.

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

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

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

EXTINGUISHING MEDIA

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.  
WATER MAY BE EFFECTIVE FOR COOLING, BUT MAY NOT EFFECT EXTINGUISHMENT.

SPECIAL FIREFIGHTING PROCEDURES

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

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

FLAMMABLE LIQUID.  
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.  
VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND  
FLASH BACK.  
CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -  
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY  
RUBBER GLOVES.  
COVER WITH DRY-LIME, SAND, OR SODA ASH. PLACE IN COVERED CONTAINERS  
USING NON-SPARKING TOOLS AND TRANSPORT OUTDOORS.  
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.  
EVACUATE AREA.  
SHUT OFF ALL SOURCES OF IGNITION.  
AVOID CONTAMINATING WATER SUPPLY.

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

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -  
SAFETY SHOWER AND EYE BATH.  
USE NONSPARKING TOOLS.  
MECHANICAL EXHAUST REQUIRED.  
WASH THOROUGHLY AFTER HANDLING.  
WASH CONTAMINATED CLOTHING BEFORE REUSE.

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

LD  
LC

CHRONIC EFFECTS

TARGET ORGAN(S):  
CENTRAL NERVOUS SYSTEM  
LIVER  
KIDNEYS

RTECS #: NP9625000  
ISOBUTYL ALCOHOL

TOXICITY DATA

ORL-RAT LD50:2460 MG/KG	AMIHBC 10,61,1954
IPR-RAT LD50:720 MG/KG	EVHPAZ 61,321,1985
IVN-RAT LD50:340 MG/KG	EVHPAZ 61,321,1985
IPR-MUS LD50:544 MG/KG	RCOCB8 26,75,1979
IVN-MUS LD50:417 MG/KG	EVHPAZ 61,321,1985
SKN-RBT LD50:3400 MG/KG	NPIRI* 1,11,1974
IPR-RBT LD50:323 MG/KG	EVHPAZ 61,321,1985
IPR-GPG LD50:1201 MG/KG	EVHPAZ 61,321,1985
IPR-HAM LD50:1401 MG/KG	EVHPAZ 61,321,1985

TARGET ORGAN DATA

LIVER (OTHER CHANGES)

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 - - - - -  
CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.  
BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE.

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: 603-004-00-6

FLAMMABLE

IRRITANT

R 10

FLAMMABLE.

R 37/38

IRRITATING TO RESPIRATORY SYSTEM AND SKIN.

R 41

RISK OF SERIOUS DAMAGE TO EYES.

R 67

VAPORS MAY CAUSE DROWSINESS AND DIZZINESS.

S 7/9

KEEP CONTAINER TIGHTLY CLOSED AND IN WELL-VENTILATED PLACE.

S 13

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.

S 26

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.

S 46

IF SWALLOWED, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THIS CONTAINER OR LABEL.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

ACGIH TLV-TWA 50 PPM  
MSHA STANDARD-AIR:TWA 100 PPM (300 MG/M3)  
DTLVS\* 3,140,1971  
OSHA PEL (GEN INDU):8H TWA 100 PPM (300 MG/M3)  
CFRGBR 29,1910.1000,1994  
OSHA PEL (CONSTRUC):8H TWA 100 PPM (300 MG/M3)  
CFRGBR 29,1926.55,1994  
OSHA PEL (SHIPYARD):8H TWA 100 PPM (300 MG/M3)  
CFRGBR 29,1915.1000,1993  
OSHA PEL (FED CONT):8H TWA 100 PPM (300 MG/M3)  
CFRGBR 41,50-204.50,1994  
OEL-AUSTRALIA: TWA 50 PPM (150 MG/M3), JAN1993  
OEL-AUSTRIA: MAK 50 PPM (150 MG/M3), JAN1999  
OEL-BELGIUM: TWA 50 PPM (152 MG/M3), JAN1993  
OEL-DENMARK: TWA 50 PPM (150 MG/M3), SKIN, JAN1999  
OEL-FRANCE: VME 50 PPM (150 MG/M3), JAN1999  
OEL-GERMANY: MAK 100 PPM (300 MG/M3), JAN1999  
OEL-JAPAN: OEL 50 PPM (150 MG/M3), JAN1999  
OEL-THE NETHERLANDS: MAC-TGG 50 PPM (150 MG/M3), JAN1999  
OEL-THE PHILIPPINES: TWA 100 PPM (300 MG/M3), JAN1993  
OEL-POLAND: MAC(TWA) 100 MG/M3, MAC(STEL) 200 MG/M3, JAN1999  
OEL-RUSSIA: TWA 50 PPM, STEL 10 MG/M3, SKIN, JAN1993  
OEL-SWITZERLAND: MAK-W 50 PPM (150 MG/M3), KZG-W 100 PPM (300 MG/M3),  
JAN1999  
OEL-UNITED KINGDOM: TWA 50 PPM (154 MG/M3), STEL 75 PPM, SEP2000  
OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;  
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV  
NIOSH REL TO ISOBUTYL ALCOHOL-AIR:10H TWA 50 PPM  
NIOSH\* DHHS #92-100,1992  
NOHS 1974: HZD 40430; NIS 181; TNF 16985; NOS 98; TNE 107310  
NOES 1983: HZD 40430; NIS 155; TNF 15449; NOS 99; TNE 256975; TFE 49376  
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY  
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES  
ON EPA IRIS DATABASE