

MATERIAL SAFETY DATA SHEET

ISO-BUTYL ALCOHOL, REAGENT
CAROLINA BIOLOGICAL

Revised: 09/05/00
Replaces: None
Printed: 04/08/06

PRODUCT IDENTIFICATION

PRODUCT NAME: ISOBUTYL ALCOHOL
COMMON SYNONYMS: 2-METHYL-1-PROPANOL; ISOBUTANOL; 2-METHYLPROPAN-1-OL
CHEMICAL FAMILY: ALCOHOLS
FORMULA: (CH₃)₂CHCH₂OH
FORMULA WT.: 74.12
CAS NO.: 78-83-1
NIOSH/RTECS NO.: NP9625000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 9048,9047,9044

CHEMTREC # (800) 424-9300 NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC. 222 RED SCHOOL LANE PHILLIPSBURG, NJ 08865 24-HOUR
EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 04/08/95
REVISION #05

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	1	SLIGHT
FLAMMABILITY	-	3	SEVERE (FLAMMABLE)
REACTIVITY	-	0	NONE
CONTACT	-	2	MODERATE

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

U.S. PRECAUTIONARY LABELING

WARNING

FLAMMABLE. CAUSES IRRITATION. HARMFUL IF SWALLOWED OR INHALED.
KEEP AWAY FROM HEAT, SPARKS, FLAME. AVOID CONTACT WITH EYES, SKIN,
CLOTHING.
AVOID BREATHING VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH
ADEQUATE
VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, USE
ALCOHOL
FOAM, DRY CHEMICAL, CARBON DIOXIDE - WATER MAY BE INEFFECTIVE. FLUSH
SPILL
AREA WITH WATER SPRAY.

INTERNATIONAL LABELING

FLAMMABLE. HARMFUL BY INHALATION.
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.

PRECAUTIONARY LABELING (CONTINUED)

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)

COMPONENTS

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COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL
ACGIH/TLV			
ISOBUTYL ALCOHOL	78-83-1	99-100	50 PPM 50
PPM			

PHYSICAL DATA

BOILING POINT: 108 C (226 F)
(AT 760 MM HG) VAPOR PRESSURE (MMHG): 9
(20 C)

MELTING POINT: -108 C (-162 F)
(AT 760 MM HG) VAPOR DENSITY (AIR=1): 2.5

SPECIFIC GRAVITY: 0.80
(H2O=1) EVAPORATION RATE: 2
(BUTYL ACETATE = 1)

SOLUBILITY(H2O): MODERATE (1-10%) % VOLATILES BY VOLUME: 100
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: LIQUID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID. ALCOHOL ODOR.

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): 27 C (82 F) NFPA 704M RATING: 1-3-0

AUTOIGNITION TEMPERATURE: 415 C (780 F)

FLAMMABLE LIMITS: UPPER - 10.9 % LOWER - 1.6 %

FIRE EXTINGUISHING MEDIA

USE ALCOHOL FOAM, DRY CHEMICAL OR CARBON DIOXIDE. (WATER MAY BE INEFFECTIVE.)

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

VAPORS MAY FLOW ALONG SURFACES TO DISTANT IGNITION SOURCES AND FLASH BACK. CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRE.

TOXIC GASES PRODUCED

CARBON MONOXIDE, CARBON DIOXIDE

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EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 150 MG/M (50 PPM)

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 150 MG/M (50 PPM)

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR ISOBUTYL ALCOHOL 2460

MG/KG

SKIN RABBIT LD50 FOR ISOBUTYL ALCOHOL 4240

MG/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY

NONE IDENTIFIED.

REPRODUCTIVE EFFECTS

NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: HEADACHE, NAUSEA, VOMITING, DIZZINESS, DROWSINESS,
IRRITATION OF UPPER RESPIRATORY TRACT,
UNCONSCIOUSNESS,
MAY CAUSE NARCOSIS

SKIN CONTACT: IRRITATION, PROLONGED CONTACT MAY CAUSE DERMATITIS

EYE CONTACT: IRRITATION, MAY CAUSE TEMPORARY CORNEAL DAMAGE

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: HEADACHE, NAUSEA, VOMITING, DIZZINESS,
GASTROINTESTINAL
IRRITATION

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS

EYES, RESPIRATORY SYSTEM, LUNGS

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

NONE IDENTIFIED

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PRIMARY ROUTES OF ENTRY

INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, GIVE
LARGE

AMOUNTS OF WATER. INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING,
GIVE

GIVE

ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT,

OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, FLUSH SKIN WITH WATER.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY
OF

WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

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

EXTREMELY HAZARDOUS SUBSTANCE: NO

CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS ISOBUTYL ALCOHOL (RQ = 5000
LBS)

SARA 313 TOXIC CHEMICALS: NO

TSCA INVENTORY: YES

REACTIVITY DATA

STABILITY: STABLE
OCCUR

HAZARDOUS POLYMERIZATION: WILL NOT

CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION

INCOMPATIBLES: STRONG OXIDIZING AGENTS, ALUMINUM

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

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. STOP
LEAK IF

YOU CAN DO SO WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. TAKE
UP

WITH SAND OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND PLACE INTO
CONTAINER FOR LATER DISPOSAL. FLUSH AREA WITH WATER.

J. T. BAKER SOLUSORB(R) SOLVENT ADSORBENT IS RECOMMENDED FOR SPILLS OF
THIS

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PRODUCT.

DISPOSAL PROCEDURE

DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER: U140 (TOXIC WASTE)

INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS UP TO 1000 PPM, A CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE IS RECOMMENDED. ABOVE THIS LEVEL, A SELF-CONTAINED BREATHING APPARATUS IS RECOMMENDED.

EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, APRON, NEOPRENE GLOVES ARE RECOMMENDED.

STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)

STORAGE REQUIREMENTS

KEEP CONTAINER TIGHTLY CLOSED. STORE IN A COOL, DRY, WELL-VENTILATED, FLAMMABLE LIQUID STORAGE AREA.

SPECIAL PRECAUTIONS

BOND AND GROUND CONTAINERS WHEN TRANSFERRING LIQUID.

TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: ISOBUTANOL
HAZARD CLASS: 3
UN/NA: UN1212 REPORTABLE QUANTITY: 5000 LBS. PACKAGING GROUP: III
LABELS: 3 FLAMMABLE LIQUID
REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: ISOBUTANOL
HAZARD CLASS: 3.3 I.M.O. PAGE: 3354
UN: UN1212 MARINE POLLUTANTS: NO PACKAGING GROUP: III
LABELS: 3 FLAMMABLE LIQUID
REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

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AIR (I.C.A.O.)

PROPER SHIPPING NAME: ISOBUTANOL

HAZARD CLASS: 3

UN: UN1212

PACKAGING GROUP: III

LABELS: 3 FLAMMABLE LIQUID

REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE

TRANSPORTATION

FACTUAL AND

MEANT AS

PRODUCT

BE

THE

CONSIDERATION,

IN

LOCAL

49CFR

TRAINING 49

DATA AND REFERENCES CONTAINED HEREIN TO BE

THE OPINION OF QUALIFIED EXPERTS. THE DATA IS

A GUIDE TO THE OVERALL CLASSIFICATION OF THE

AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT

TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH

COMPANY ASSUMES LEGAL RESPONSIBILITY.=== THE

INFORMATION IS OFFERED SOLELY FOR YOUR

INVESTIGATION, AND VERIFICATION. ANY USE OF THE
INFORMATION MUST BE DETERMINED BY THE USER TO BE

ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND

LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS

171.2, CERTIFICATION 172.204, AND EMPLOYEE

CFR 173.1(B).

U.S. CUSTOMS HARMONIZATION NUMBER: 29051400104

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING. N/A = NOT APPLICABLE, OR NOT AVAILABLE N/E = NOT ESTABLISHED. THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET 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, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE

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