

H2379 -06
EFFECTIVE: 05/01/89

HEXANES

PAGE: 1
ISSUED: 05/16/89

J.T.BAKER INC., 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865

=====
SECTION I - PRODUCT IDENTIFICATION
=====

PRODUCT NAME: HEXANES
COMMON SYNONYMS: NORMAL HEXANE; HEXYL HYDRIDE
CHEMICAL FAMILY: ALIPHATIC HYDROCARBONS
FORMULA: C6H14
FORMULA WT.: 86.18
CAS NO.: 110-54-3
NIOSH/RTECS NO.: MN9275000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: N169,9306,9309

=====
PRECAUTIONARY LABELING
=====

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	4	EXTREME (CANCER CAUSING)
FLAMMABILITY	-	4	EXTREME (FLAMMABLE)
REACTIVITY	-	2	MODERATE
CONTACT	-	2	MODERATE

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B
EXTINGUISHER

U.S. PRECAUTIONARY LABELING

POISON DANGER

CAUSES IRRITATION. EXTREMELY FLAMMABLE. CAUTION: CONTAINS BENZENE, CANCER
HAZARD. HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
KEEP AWAY FROM HEAT, SPARKS, FLAME. DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
DO NOT BREATHE VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE
VENTILATION. WASH THOROUGHLY AFTER HANDLING. KEEP CONTAINERS OUT OF SUN AND
AWAY FROM HEAT. IN CASE OF FIRE, USE ALCOHOL FOAM, DRY CHEMICAL, CARBON
DIOXIDE - WATER MAY BE INEFFECTIVE. IN CASE OF SPILL, SOAK UP WITH SAND OR
EARTH.

CONTINUED ON PAGE: 2

H2379 -06
EFFECTIVE: 05/01/89

HEXANES

PAGE: 2
ISSUED: 05/16/89

=====

PRECAUTIONARY LABELING (CONTINUED)

=====

INTERNATIONAL LABELING

HIGHLY FLAMMABLE. HARMFUL BY INHALATION AND IN CONTACT WITH SKIN. POSSIBLE RISKS OF IRREVERSIBLE EFFECTS.
KEEP CONTAINER IN A WELL-VENTILATED PLACE. KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING. DO NOT BREATHE VAPOUR.

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

=====

SECTION II - COMPONENTS

=====

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
N-HEXANE	110-54-3	65-75	500 PPM	50 PPM
METHYLPENTANE	43133-95-5	15-20	N/E	N/E
METHYLCYCLOPENTANE	96-37-7	10-15	N/E	N/E
METHYLBUTANES	N/A	<2	N/E	N/E
BENZENE	71-43-2	<1	1 PPM	10 PPM

=====

SECTION III - PHYSICAL DATA

=====

BOILING POINT: 69 C (156 F)
(AT 760 MM HG)

VAPOR PRESSURE (MMHG): 124
(20 C)

MELTING POINT: -95 C (-139 F)
(AT 760 MM HG)

VAPOR DENSITY (AIR=1): 3.0

SPECIFIC GRAVITY: 0.66
(H2O=1)

EVAPORATION RATE: 9
(BUTYL ACETATE = 1)

SOLUBILITY(H2O): NEGLIGIBLE (<0.1%)

% 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

CONTINUED ON PAGE: 3

H2379 -06
EFFECTIVE: 05/01/89

HEXANES

PAGE: 3
ISSUED: 05/16/89

=====
SECTION III - PHYSICAL DATA (CONTINUED)
=====

APPEARANCE & ODOR: COLORLESS LIQUID. FAINT ODOR.

=====
SECTION IV - FIRE AND EXPLOSION HAZARD DATA
=====

FLASH POINT (CLOSED CUP): -21 C (-7 F)

NFPA 704M RATING: 1-3-0

AUTOIGNITION TEMPERATURE: 224 C (437 F)

FLAMMABLE LIMITS: UPPER - 7.5 % LOWER - 1.1 %

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

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT

NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

NONE IDENTIFIED.

CONTINUED ON PAGE: 4

H2379 -06
EFFECTIVE: 05/01/89

HEXANES

PAGE: 4
ISSUED: 05/16/89

=====
SECTION V - HEALTH HAZARD DATA
=====

THRESHOLD LIMIT VALUE (TLV/TWA): 180 MG/M3 (50 PPM)

TLV IS FOR HEXANE (N-HEXANE).

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 1800 MG/M3 (500 PPM)

PEL IS FOR HEXANE.

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR N-HEXANE

28.7 G/KG

ORAL RAT LD50 FOR BENZENE

4894 MG/KG

ORAL MOUSE LD50 FOR BENZENE

4700 MG/KG

INTRAPERITONEAL RAT LD50 FOR BENZENE

2.89 MG/KG

INHALATION MOUSE LC50 FOR BENZENE

9980 PPM

MUTAGENICITY: NTP: NO IARC: NO

Z LIST: NO OSHA REG: NO

CARCINOGENICITY

THIS PRODUCT CONTAINS UP TO 65 PPM OF BENZENE, WHICH IS LISTED AS AN ACGIH SUSPECTED HUMAN CARCINOGEN, A NTP HUMAN CARCINOGEN, AND AN IARC HUMAN CARCINOGEN (GROUP 1).

REPRODUCTIVE EFFECTS

EXPOSURE TO N-HEXANE HAS BEEN REPORTED TO CAUSE BLOOD CHANGES IN LABORATORY ANIMALS. FETAL DEATH IN LABORATORY ANIMALS HAS ALSO BEEN REPORTED FROM EXPOSURE TO N-HEXANE.

EFFECTS OF OVEREXPOSURE

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

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: MAY BE HARMFUL

CONTINUED ON PAGE: 5

H2379 -06
EFFECTIVE: 05/01/89

HEXANES

PAGE: 5
ISSUED: 05/16/89

=====
SECTION V - HEALTH HAZARD DATA (CONTINUED)
=====

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

CHRONIC EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSION, AND CENTRAL NERVOUS SYSTEM DAMAGE

TARGET ORGANS
SKIN, EYES, RESPIRATORY SYSTEM, LUNGS, CENTRAL NERVOUS SYSTEM

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

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

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING.

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.

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 BENZENE (RQ = 1000 LBS)

TOXIC CHEMICALS: YES CONTAINS BENZENE

GENERIC CLASS: CO1

TSCA INVENTORY: YES

STATE LISTS: FOR PRODUCTS SOLD IN THE STATE OF CALIFORNIA, THE STATE REQUIRES THAT WE PROVIDE TO USERS AND THEIR EMPLOYEES THE FOLLOWING MESSAGE: WARNING: THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

H2379 -06
EFFECTIVE: 05/01/89

HEXANES

PAGE: 7
ISSUED: 05/16/89

=====
SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT (CONTINUED)
=====

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

=====
SECTION IX - 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.

=====
SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION
=====

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: HEXANE
HAZARD CLASS: FLAMMABLE LIQUID
UN/NA: UN1208
LABELS: FLAMMABLE LIQUID
REGULATORY REFERENCES: 49CFR 172.101; 173.119

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: HEXANES
HAZARD CLASS: 3.1
UN: UN1208 MARINE POLLUTANTS: NO
LABELS: FLAMMABLE LIQUID
REGULATORY REFERENCES: 49CFR 172.102; PART 176; IMO
I.M.O. PAGE: 3034-7
PACKAGING GROUP: II

AIR (I.C.A.O.)

PROPER SHIPPING NAME: HEXANES
HAZARD CLASS: 3.1
UN: UN1208
LABELS: FLAMMABLE LIQUID
PACKAGING GROUP: II

CONTINUED ON PAGE: 8

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865
M A T E R I A L S A F E T Y D A T A S H E E T
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151
CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

H2379 -06
EFFECTIVE: 05/01/89

HEXANES

PAGE: 8
ISSUED: 05/16/89

=====
SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (CONTINUED)
=====

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

U.S. CUSTOMS HARMONIZATION NUMBER: 2901106001

EPA/TSCA EXPORT NOTIFICATION
YES

=====
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 PRODUCT SUPPLIED HEREUNDER, 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, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. IF YOU HAVE ANY QUESTIONS, PLEASE CALL CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE.

=====
COPYRIGHT 1989 J.T.BAKER INC.
* TRADEMARKS OF J.T.BAKER INC.
====

APPROVED BY QUALITY ASSURANCE DEPARTMENT.

-- LAST PAGE --