SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: HEXANES
COMMONSYNONYMS: NORMAL HEXANE; HEXYL HYDRIDE
CHEMICAL FAMILY: ALIPHATIC HYDROCARBONS
FORMULA: C₆H₁₄
FORMULA WT.: 86.18
CAS NO.: 110-54-3
NIOSH/RTCS NO.: MN9275000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: N16993069309

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
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

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS NO.</th>
<th>WEIGHT %</th>
<th>OSHA/PEL</th>
<th>ACGIH/TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-HEXANE</td>
<td>110-54-3</td>
<td>65-75</td>
<td>500 PPM</td>
<td>50 PPM</td>
</tr>
<tr>
<td>METHYLPROPANE</td>
<td>43133-95-5</td>
<td>15-20</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>METHYLCHLOROPENTANE</td>
<td>96-37-7</td>
<td>10-15</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>ETHYLBUTANES</td>
<td>N/A</td>
<td>&lt;2</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>C8ZENE</td>
<td>71-43-2</td>
<td>&lt;1</td>
<td>1 PPM</td>
<td>10 PPM</td>
</tr>
</tbody>
</table>

SECTION III - PHYSICAL DATA

BOILING POINT: 69 C (156 F) (AT 760 MM HG)
MELTING POINT: -95 C (-139 F) (AT 760 MM HG)
SPECIFIC GRAVITY: 0.66 (H2O=1)
SOLUBILITY(H2O): NEGLIGIBLE (<0.1%)
PH: N/A
ODOR THRESHOLD (P-P-M): N/A
COEFFICIENT WATER/OIL DISTRIBUTION: N/A

CONTINUED ON PAGE: 3
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 704 M 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
FIREIGHTERS 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
HEXANES

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

CARCINOGENICITY: 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
HEXANES

H2379-06

EFFECTIVE: 05/01/89

HEXANES

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.

CONTINUED ON PAGE: 6
HEXANES

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

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

INCOMPATIBILITIES: STRONG OXIDIZING AGENTS, CHLORINE, FLUORINE, MAGNESIUM PERCHLORATE

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE 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 PRODUCT.

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

EPA HAZARDOUS WASTE NUMBER: D001 (IGNITABLE WASTE)

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.

CONTINUED ON PAGE: 7
EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, APRON, NEOPRENE GLOVES ARE RECOMMENDED.

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.

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

AIR (I.C.A.O.)
PROPER SHIPPING NAME: HEXANES
HAZARD CLASS: 3.1
UN: UN1208
LABELS: FLAMMABLE LIQUID

CONTINUED ON PAGE: 8
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.

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