

HEXANE

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THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

Product Name: HEXANE

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ATTN: PLANT MGR./SAFETY DIR.

SECTION I - PRODUCT IDENTIFICATION

General or Generic ID: ALIPHATIC HYDROCARBON
DOT Hazard Classification: 3 (FLAMMABLE LIQUID)

SECTION II - COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION. SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	Percent	PEL	TLV	Note
HEXANE CAS #: 110-54-3	>95	50 PPM	50 PPM	(1)

Notes:

(1) NIOSH RECOMMENDS A LIMIT OF 100 PPM - 8 HOUR TIME WEIGHTED AVERAGE, 510 PPM CEILING. THESE LIMITS ARE FOR N-HEXANE. THE OSHA PEL AND THE ACGIH TLV FOR OTHER ISOMERS OF HEXANE IS 500 PPM, TWA; 1000 PPM SHORT TERM EXPOSURE LIMIT (STEL).

THIS CHEMICAL IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA TITLE III.

SECTION III - PHYSICAL DATA

Boiling Point	for PRODUCT	142.00 - 159.00 Deg F (65.00 - 70.55 Deg C) @ 760.00 mm Hg
Vapor Pressure	for PRODUCT	@ 125.00 mm Hg (68.00 Deg F 20.00 Deg C)
Specific Vapor Density	AIR = 1	3.00
Specific Gravity		@ .675 (60.00 Deg F 15.55 Deg C)
Percent Volatiles		100.00%
Evaporation Rate	(N-BUTYL ACETATE = 1)	9.00

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT(TCC) -10.0 Deg F (-23.3 Deg C)

EXPLOSIVE LIMIT (PRODUCT) LOWER - 1.0%

EXTINGUISHING MEDIA: REGULAR FOAM OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM: CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.

FIREFIGHTING PROCEDURES: WEAR A SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WITH APPROPRIATE TURN-OUT GEAR AND CHEMICAL RESISTANT PERSONAL PROTECTIVE EQUIPMENT. REFER TO THE PERSONAL PROTECTIVE EQUIPMENT SECTION OF THIS MSDS.

WATER MAY BE INEFFECTIVE.

WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

SPECIAL FIRE & EXPLOSION HAZARDS: NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

ALL FIVE GALLON PAILS AND LARGER METAL CONTAINERS INCLUDING TANK CARS AND TANK TRUCKS SHOULD BE GROUNDED AND/OR BONDED WHEN MATERIAL IS TRANSFERRED.

MATERIAL IS HIGHLY VOLATILE AND READILY GIVES OFF VAPORS WHICH MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NFPA CODES: HEALTH- 1 FLAMMABILITY- 3 REACTIVITY- 0

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SECTION V-HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 50 PPM
THRESHOLD LIMIT VALUE 50 PPM

EFFECTS OF ACUTE OVEREXPOSURE:

EYES - EXPOSURE MAY CAUSE MILD EYE IRRITATION. SYMPTOMS MAY INCLUDE STINGING, TEARING, AND REDNESS.
SKIN - EXPOSURE MAY CAUSE MILD SKIN IRRITATION. PROLONGED OR REPEATED EXPOSURE MAY DRY THE SKIN. SYMPTOMS MAY INCLUDE REDNESS, BURNING, DRYING AND CRACKING, AND SKIN BURNS. PRE-EXISTING SKIN DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.
SKIN ABSORPTION IS POSSIBLE, BUT HARMFUL EFFECTS ARE NOT EXPECTED FROM THIS ROUTE OF EXPOSURE UNDER NORMAL CONDITIONS OF HANDLING AND USE.
BREATHING - EXPOSURE TO VAPOR OR MIST IS POSSIBLE.
SHORT-TERM INHALATION TOXICITY IS LOW. BREATHING SMALL AMOUNTS DURING NORMAL HANDLING IS NOT LIKELY TO CAUSE HARMFUL EFFECTS; BREATHING LARGE AMOUNTS MAY BE HARMFUL.
SYMPTOMS ARE MORE TYPICALLY SEEN AT AIR CONCENTRATIONS EXCEEDING THE RECOMMENDED EXPOSURE LIMITS. SYMPTOMS OF EXPOSURE MAY INCLUDE:
-IRRITATION (NOSE, THROAT, RESPIRATORY TRACT)- PRE-EXISTING LUNG DISORDERS, E.G. ASTHMA-LIKE CONDITIONS, MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.
-CENTRAL NERVOUS SYSTEM DEPRESSION (DIZZINESS, DROWSINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE, UNCONSCIOUSNESS)-
SWALLOWING - SINGLE DOSE ORAL TOXICITY IS LOW. SWALLOWING SMALL AMOUNTS DURING NORMAL HANDLING IS NOT LIKELY TO CAUSE HARMFUL EFFECTS; SWALLOWING LARGE AMOUNTS MAY BE HARMFUL.
SYMPTOMS MAY INCLUDE:
-GASTROINTESTINAL IRRITATION (NAUSEA, VOMITING, DIARRHEA)-
-CENTRAL NERVOUS SYSTEM DEPRESSION (DIZZINESS, DROWSINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE, UNCONSCIOUSNESS)-
THIS MATERIAL CAN ENTER THE LUNGS DURING SWALLOWING OR VOMITING AND CAUSE LUNG INFLAMMATION AND/OR DAMAGE.

FIRST AID:

IF ON SKIN: REMOVE CONTAMINATED CLOTHING. WASH EXPOSED AREA WITH SOAP AND WATER. IF SYMPTOMS PERSIST, SEEK MEDICAL ATTENTION. LAUNDRY CLOTHING BEFORE REUSE.
IF IN EYES: IF SYMPTOMS DEVELOP, MOVE INDIVIDUAL AWAY FROM EXPOSURE AND INTO FRESH AIR. FLUSH EYES GENTLY WITH WATER WHILE HOLDING EYELIDS APART. IF SYMPTOMS PERSIST OR THERE IS ANY VISUAL DIFFICULTY, SEEK MEDICAL ATTENTION.
IF SWALLOWED: DO NOT INDUCE VOMITING. THIS MATERIAL IS AN ASPIRATION HAZARD. IF INDIVIDUAL IS DROWSY OR UNCONSCIOUS, PLACE ON LEFT SIDE WITH THE HEAD DOWN. SEEK MEDICAL ATTENTION. IF POSSIBLE, DO NOT LEAVE INDIVIDUAL UNATTENDED.
IF BREATHED: IF SYMPTOMS DEVELOP, MOVE INDIVIDUAL AWAY FROM EXPOSURE AND INTO FRESH AIR. IF SYMPTOMS PERSIST, SEEK MEDICAL ATTENTION. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. KEEP PERSON WARM AND QUIET; SEEK IMMEDIATE MEDICAL ATTENTION.

NOTE TO PHYSICIAN:
INHALATION OF HIGH CONCENTRATIONS OF THIS MATERIAL, AS COULD OCCUR IN ENCLOSED SPACES OR DURING DELIBERATE ABUSE, MAY BE ASSOCIATED WITH CARDIAC ARRHYTHMIAS. SYMPATHOMIMETIC DRUGS MAY INITIATE CARDIAC ARRHYTHMIAS IN PERSONS EXPOSED TO THIS MATERIAL.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION, SKIN ABSORPTION, SKIN CONTACT, EYE CONTACT

EFFECTS OF CHRONIC OVEREXPOSURE:

PROLONGED AND REPEATED EXPOSURE TO N-HEXANE MAY CAUSE PERIPHERAL NEUROPATHY BY DAMAGING PERIPHERAL NERVE TISSUE (THAT OF THE ARMS AND LEGS) AND RESULT IN MUSCULAR WEAKNESS AND LOSS OF SENSATION.

THIS MATERIAL (OR A COMPONENT) HAS BEEN SHOWN TO CAUSE HARM TO THE FETUS IN LABORATORY ANIMAL STUDIES. HARM TO THE FETUS OCCURS ONLY AT EXPOSURE LEVELS THAT HARM THE PREGNANT ANIMAL. THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNCERTAIN.

BASED ON THE AVAILABLE INFORMATION, THIS MATERIAL CANNOT BE CLASSIFIED WITH REGARD TO CARCINOGENICITY.

THIS MATERIAL IS NOT LISTED AS A CARCINOGEN BY IARC, NTP OR OSHA.

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN LABORATORY ANIMALS, AND MAY AGGRAVATE PRE-EXISTING DISORDERS OF THESE ORGANS IN HUMANS: NERVOUS SYSTEM DAMAGE, MILD, REVERSIBLE LIVER EFFECTS, MILD, REVERSIBLE KIDNEY EFFECTS, LUNG DAMAGE, NASAL DAMAGE, TESTIS DAMAGE

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN HUMANS, AND MAY AGGRAVATE PRE-EXISTING DISORDERS OF THESE ORGANS: CENTRAL NERVOUS SYSTEM EFFECTS, VISUAL IMPAIRMENT

SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH: STRONG OXIDIZING AGENTS

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON VERMICULITE, FLOOR ABSORBENT OR OTHER ABSORBENT MATERIAL.

LARGE SPILL: ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE. PREVENT FROM ENTERING DRAINS, SEWERS, STREAMS OR OTHER BODIES OF WATER. PREVENT FROM SPREADING. IF RUNOFF OCCURS, NOTIFY AUTHORITIES AS REQUIRED. PUMP OR VACUUM TRANSFER SPILLED PRODUCT TO CLEAN CONTAINERS FOR RECOVERY. ABSORB UNRECOVERABLE PRODUCT. TRANSFER CONTAMINATED ABSORBENT, SOIL AND

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SECTION VII - SPILL OR LEAK PROCEDURES (Continued)

OTHER MATERIALS TO CONTAINERS FOR DISPOSAL.

PER GOOD ENVIRONMENTAL MANAGEMENT PRACTICES, PREVENT RUN-OFF TO SEWERS, STREAMS AND OTHER BODIES OF WATER. STOP SPILL AT THE SOURCE. COVER SEWER GRATES AND DIKE THE SPILL. ABSORB SPILLED MATERIAL ON TO ABSORBENTS. SHOVEL MATERIALS INTO CONTAINER. CLOSE CONTAINER TIGHTLY AND DISPOSE OF PROPERLY.

WASTE DISPOSAL METHOD:

SMALL SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

LARGE SPILL: DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII - PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II) A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS (SEE YOUR INDUSTRIAL HYGIENIST). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER).

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. CONSULT YOUR SAFETY REPRESENTATIVE.

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX - SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED, SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

HYDROCARBON SOLVENTS ARE BASICALLY NON-CONDUCTORS OF ELECTRICITY AND CAN BECOME ELECTROSTATICALLY CHARGED DURING MIXING, FILTERING OR PUMPING AT HIGH FLOW RATES. IF THIS CHARGE REACHES A SUFFICIENTLY HIGH LEVEL, SPARKS CAN FORM THAT MAY IGNITE THE VAPORS OF FLAMMABLE LIQUIDS.

WARNING!!! SUDDEN RELEASE OF HOT ORGANIC CHEMICAL VAPORS OR MISTS FROM PROCESS EQUIPMENT OPERATING AT ELEVATED TEMPERATURE AND PRESSURE, OR SUDDEN INGRESS OF AIR INTO VACUUM EQUIPMENT, MAY RESULT IN IGNITIONS WITHOUT THE PRESENCE OF OBVIOUS IGNITION SOURCES. PUBLISHED "AUTOIGNITION" OR "IGNITION" TEMPERATURE VALUES CANNOT BE TREATED AS SAFE OPERATING TEMPERATURES IN CHEMICAL PROCESSES WITHOUT ANALYSIS OF THE ACTUAL PROCESS CONDITIONS. ANY USE OF THIS PRODUCT IN ELEVATED TEMPERATURE PROCESSES SHOULD BE THOROUGHLY EVALUATED TO ESTABLISH AND MAINTAIN SAFE OPERATING CONDITIONS.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.