MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - - CHEMICAL IDENTIFICATION - - - - - - - -
CATALOG #: H9379
NAME: n-HEXANE

SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - -
CAS #: 110-54-3
MF: C6H14
EC NO: 203-777-6
SYNONYMS
ESANI (ITALIAN) * GETTYSOLVE-B * HEKSN (POLISH) * N-HEXANE (ACGIH: OSHA) * HEXANEN (DUTCH) * HEXYL HYDRISE * NCI-C60571 *

SECTION 3. - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
FLAMMABLE (USA)
HARMFUL
IRRITATING TO SKIN.
HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION.
TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
POSSIBLE RISK OF IMPAIRED FERTILITY.
HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED.
VAPORS MAY CAUSE DROWSINESS AND DIZZINESS.
TARGET ORGAN(S):
NERVES
KIDNEYS
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
AVOID CONTACT - OBTAIN SPECIAL INSTRUCTIONS BEFORE USE.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

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
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASH BACK.
CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.
FLAMMABLE LIQUID.
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - -
Wear self-contained breathing apparatus, 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.
Use nonsparking tools.

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.
Remove and wash contaminated clothing promptly.
Wash thoroughly after handling.
Do not breathe vapor.
Do not get in eyes, on skin, on clothing.
Avoid prolonged or repeated exposure.
NIOSH/MSHA-approved respirator.
Compatible chemical-resistant gloves.
Chemical safety goggles.
Keep tightly closed.
Keep away from heat, sparks, and open flame.
Store in a cool dry place.

SECTION 9. - - - - - - PHYSICAL AND CHEMICAL PROPERTIES-- - - - -
Appearance and odor
Liquid.
Physical properties
Boiling point: 69 C
Melting point: -95 C
Flashpoint -9.40F
-23C
Explosion limits in air:
Upper 7.7%
Lower 1.2%
Vapor pressure: 132 mmHg @ 20 C
Solubility: water -Z1077
Specific gravity: 0.659
Evaporation rate: 15.8
Vapor density: 3 g/L
Percent volatile: 100%
Odor threshold: 64 - 244 ppm
Viscosity: 32 pas
PH: 7

SECTION 10. - - - - - - - STABILITY AND REACTIVITY-- - - - - - -
Stability
Stable.
Incompatibilities
Oxidizing agents
Incompatible with: chlorine, fluorine, magnesium perchlorate.
Hazardous combustion or decomposition products
Carbon monoxide, carbon dioxide
Hazardous polymerization
Will not occur.

SECTION 11. - - - - - - - TOXICOLOGICAL INFORMATION-- - - - - - -
Acute effects
Prolonged or repeated contact with skin can cause defatting and dermatitis. Contact with eyes can cause redness, tearing, and blurred vision. Ingestion may cause gastrointestinal irritation. Can cause CNS depression.
Exposure can cause:
Lung irritation, chest pain and edema which may be fatal.
Headache, dizziness, drowsiness, incoordination, slowed reaction time,
SLURRED SPEECH, GIDDINESS AND UNCONSCIOUSNESS.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
CAUSES SKIN IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
MAY CAUSE EYE IRRITATION.
MAY BE HARMFUL IF INHALED.
VAPOR OR MIST IS IRRITATING TO THE MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
MAY BE HARMFUL IF SWALLOWED.

CHRONIC EFFECTS
OVEREXPOSURE MAY CAUSE REPRODUCTIVE DISORDER(S) BASED ON TESTS WITH
LABORATORY ANIMALS.
TARGET ORGAN(S):
PERIPHERAL NERVOUS SYSTEM
KIDNEYS
TESTES
RTECS #: MN9275000
HEXANE
IRRITATION DATA
EYE-RBT 10 MG MLD

TOXICITY DATA
ORL-RAT LD50:25 GM/KG
INHEAO 32,145,1994
IHL-RAT LC50:48000 PPM/4H
ARPTDI 22,145,1982
TARGET ORGAN DATA
PERIPHERAL NERVE AND SENSATION (STRUCTURAL CHANGE IN NERVE OR SHEATH)
BEHAVIORAL (ALTERED SLEEP TIME)
TUMORIGENIC EFFECTS (TESTICULAR TUMORS)
EFFECTS ON NEWBORN (GROWTH STATISTICS)
TUMORIGENIC (CARCINOGENIC BY RTECS CRITERIA)
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
SCREWER 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: 601-037-00-0
HIGHLY FLAMMABLE
Harmful
R 11
HIGHLY FLAMMABLE.
R 38
IRRITATING TO SKIN.
R 48/20
HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED
EXPOSURE THROUGH INHALATION.
R 51/53
TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS
IN THE AQUATIC ENVIRONMENT.
R 62
POSSIBLE RISK OF IMPAIRED FERTILITY.
R 65
HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED.
R 67
VAPORS MAY CAUSE DROWSINESS AND DIZZINESS.
S 9
KEEP CONTAINER IN A WELL-VENTILATED PLACE.
S 16
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
S 29
DO NOT EMPTY INTO DRAINS.
S 33
TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES.
S 36/37
WEAR SUITABLE PROTECTIVE CLOTHING AND GLOVES.
S 61
AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/
SAFETY DATA SHEETS.
S 62
IF SWALLOWED, DO NOT INDUCE VOMITING; SEEK MEDICAL ADVICE
IMMEDIATELY AND SHOW THIS CONTAINER OR LABEL.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK
ACGIH TLV-TWA 50 PPM (SKIN)

MSHA STANDARD-AIR:TWA 500 PPM (1800 MG/M3)

OSHA PEL (INDUSTRY): 8H TWA 500 PPM (1800 MG/M3)

CFR 1910.1000

OSHA PEL (CONSTRUCTION): 8H TWA 500 PPM (1800 MG/M3)

CFR 29,1926.55

OSHA PEL (SHIPYARD): 8H TWA 500 PPM (1800 MG/M3)

CFR 29,1915.1000

OSHA PEL (FEDERAL): 8H TWA 500 PPM (1800 MG/M3)

CFR 41,50,204.50

OEL-AUSTRALIA: TWA 50 PPM (180 MG/M3), JAN1993

OEL-AUSTRIA: MAK 50 PPM (180 MG/M3), JAN1999

OEL-BELGIUM: TWA 50 PPM (176 MG/M3), JAN1993

OEL-DENMARK: TWA 25 PPM (90 MG/M3), JAN1999

OEL-FINLAND: TWA 50 PPM (180 MG/M3), STEL 150 PPM (530 MG/M3), JAN1999

OEL-FRANCE: VME 50 PPM (170 MG/M3), JAN1999

OEL-GERMANY: MAK 50 PPM (180 MG/M3), JAN1999

OEL-HUNGARY: TWA 100 MG/M3, STEL 200 MG/M3, SKIN, JAN1993

OEL-JAPAN: OEL 40 PPM (140 MG/M3), SKIN, JAN1999

OEL-THE NETHERLANDS: MAC-TGG 25 PPM (90 MG/M3), JAN1999

OEL-NORWAY: TWA 25 PPM (90 MG/M3), JAN1999

OEL-THE PHILIPPINES: TWA 500 PPM (1800 MG/M3), JAN1993

OEL-POLAND: MAC(TWA) 100 MG/M3, MAC(STEL) 400 MG/ME, JAN1999

OEL-RUSSIA: TWA 40 PPM, STEL 300 MG/M3, JAN1993

OEL-SWEDEN: NGV 25 PPM (90 MG/M3), KTV 50 PPM (180 MG/M3), JAN1999

OEL-SWITZERLAND: MAK-W 50 PPM (180 MG/M3), KZG-W 100 PPM (360 MG/M3), JAN1999

OEL-TURKEY: TWA 500 PPM (1800 MG/M3), JAN1993

OEL-UNITED KINGDOM: TWA 20 PPM (72 MG/M3), SEP2000

OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV

NIOSH REL TO HEXANE-AIR:10H TWA 50 PPM

NIOSH* DNH #92-100,1992

NOHS 1974: HZD 36955; NIS 281; TNF 72257; NOS 168; TNE 763261

NOES 1983: HZD 36955; NIS 221; TNF 40256; NOS 161; TNE 643101; TFE

138726

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES

EPA TSCA SECTION 8(E) RISK NOTIFICATION, 8EHQ-1292-8628; 8EHQ-0893-8628
ON EPA IRIS DATABASE

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

NIOSH ANALYTICAL METHOD, 1994: HYDROCARBONS, BP 36-126 DEGREE C, 1500

NIOSH ANALYTICAL METHOD, 1996: VOLATILE ORGANIC COMPOUND, 2549

NTP TOXICITY STUDIES, RPT# TOX-02, OCTOBER 2000

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

SECTION 16. - - - - - - - OTHER INFORMATION-

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