Hexane

211-4

SECTION 1. IDENTIFICATION

Product name	:	Hexane
Number	:	000000011372
Product Use Description	:	Solvent
Manufacturer or supplier's details	:	Honeywell International Inc. 1953 South Harvey Street Muskegon, MI 49442
For more information call	:	1-800-368-0050 +1-231-726-3171(Monday-Friday, 9:00am-5:00pm)
In case of emergency call	:	**Medical: 1-800-498-5701 or +1-303-389-1414**
	:	**Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
	:	
	:	(24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form	:	liquid, clear
Color	:	colourless
Odor	:	mild hydrocarbon-like

Classification of the substance or mixture

Classification of the substance or mixture	:	Flammable liquids, Category 2 Skin irritation, Category 2 Reproductive toxicity, Category 2 Specific target organ toxicity - single exposure, Category 3, Central nervous system Specific target organ toxicity - repeated exposure, Category 2, Peripheral nervous system, Central nervous system Aspiration hazard, Category 1

GHS Label elements, including precautionary statements

Symbol(s) :

Signal word : Danger

Hazard statements : Highly flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.

Response:
IF SWALLOWED: Immediately call a POISON CENTER/doctor.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C6H14

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
n-Hexane	110-54-3	>60.00 %
Other Hexanes	-	<40.00 %

SECTION 4. FIRST AID MEASURES

Inhalation : Call a physician immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician.

Eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.
Ingestion	:	Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately. Never give anything by mouth to an unconscious person.

Notes to physician

Indication of immediate medical attention and special treatment needed, if necessary	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Foam Carbon dioxide (CO2) Dry chemical Cool closed containers exposed to fire with water spray.
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during firefighting	:	Extremely flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO2)
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions,	:	Wear personal protective equipment. Unprotected persons

protective equipment and emergency procedures		must be kept away. Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Remove all sources of ignition. Do not swallow. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system. Do not allow run-off from fire fighting to enter drains or water courses.
Methods and materials for containment and cleaning up	:	Ventilate the area. No sparking tools should be used. Use explosion-proof equipment. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling	:	Wear personal protective equipment. Use only in well-ventilated areas. Keep container tightly closed. Do not smoke. Do not swallow. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.
Advice on protection against fire and explosion	:	Keep away from fire, sparks and heated surfaces. Take precautionary measures against static discharges. Ensure all equipment is electrically grounded before beginning transfer operations. Use explosion-proof equipment. Keep product and empty container away from heat and sources of ignition. No sparking tools should be used. No smoking.

Storage

Conditions for safe storage, including any incompatibilities	:	Store in area designed for storage of flammable liquids. Protect from physical damage. Keep containers tightly closed in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from heat and sources of ignition. Keep away from direct sunlight. Store away from incompatible substances. Container hazardous when empty. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures	:	Ensure that eyewash stations and safety showers are close to the workstation location.
Engineering measures	:	Use with local exhaust ventilation. Prevent vapour buildup by providing adequate ventilation during and after use.
Eye protection	:	Do not wear contact lenses. Wear as appropriate: Safety glasses with side-shields If splashes are likely to occur, wear: Goggles or face shield, giving complete protection to eyes
Hand protection	:	Solvent-resistant gloves Gloves must be inspected prior to use. Replace when worn.
Skin and body protection	:	Wear as appropriate: Solvent-resistant apron Flame retardant antistatic protective clothing. If splashes are likely to occur, wear: Protective suit
Respiratory protection	:	In case of insufficient ventilation wear suitable respiratory equipment.

For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
Use NIOSH approved respiratory protection.

Hygiene measures : When using, do not eat, drink or smoke.
Wash hands and face before breaks and immediately after handling the product.
Keep working clothes separately.
Remove and wash contaminated clothing before re-use.
Do not swallow.
Do not breathe vapours or spray mist.
Avoid contact with skin, eyes and clothing.

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis
n-Hexane	110-54-3	TWA : Time weighted average	(50 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
n-Hexane	110-54-3	SKIN_DES : Skin designation:	Can be absorbed through the skin.	2008	ACGIH:US. ACGIH Threshold Limit Values
n-Hexane	110-54-3	REL : Recommended exposure limit (REL):	180 mg/m3 (50 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
n-Hexane	110-54-3	PEL : Permissible exposure limit	1,800 mg/m3 (500 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
n-Hexane	110-54-3	TWA : Time weighted average	180 mg/m3 (50 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

Other Hexanes		TWA : Time weighted average	(500 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Other Hexanes		STEL : Short term exposure limit	(1,000 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Other Hexanes		Ceil_Time : Ceiling Limit Value and Time Period (if specified) :	1,800 mg/m3 (510 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Other Hexanes		REL : Recommended exposure limit (REL):	350 mg/m3 (100 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Other Hexanes		STEL : Short term exposure limit	3,600 mg/m3 (1,000 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Other Hexanes		TWA : Time weighted average	1,800 mg/m3 (500 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
n-Hexane	110-54-3	TWA : Time weighted average	(50 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values

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Other Hexanes		TWA : Time weighted average	1,800 mg/m3 (500 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid, clear
Color	:	colourless
Odor	:	mild hydrocarbon-like
Odor threshold	:	Note: no data available
pH	:	Note: Not applicable
Melting point/range	:	-95 °C
Boiling point/boiling range	:	68.7 °C
Flash point	:	-15 °F (-26 °C) Method: closed cup
Evaporation rate	:	Note: no data available

Lower explosion limit	:	1.2 %(V)
Upper explosion limit	:	7.7 %(V)
Vapor pressure	:	165.32 hPa at 20 °C(68 °F)
Vapor density	:	3 Note: (Air = 1.0)
Density	:	0.659 - 0.673 g/cm3 at 20 °C
Water solubility	:	Note: negligible
Partition coefficient: n-octanol/water	:	Note: no data available
Ignition temperature	:	225 °C
Decomposition temperature	:	Note: no data available
Viscosity, dynamic	:	Note: no data available
Viscosity, kinematic	:	Note: no data available
Molecular weight	:	86.18 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous	:	Hazardous polymerisation does not occur.

reactions

Conditions to avoid	:	Heat, flames and sparks. Keep away from direct sunlight.
Incompatible materials	:	Oxidizing agents Halogens Oxygen May attack many plastics, rubbers and coatings.
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO2)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	LD50: 25,000 mg/kg Species: Rat Test substance: n-Hexane
Acute inhalation toxicity	:	LC50: 48000 ppm Exposure time: 4 h Species: Rat Test substance: n-Hexane
Acute dermal toxicity	:	LD50: 3,000 mg/kg Species: Rabbit Test substance: n-Hexane
Skin irritation	:	Species: Rabbit Result: irritating Test substance:n-Hexane
Eye irritation	:	Species: Rabbit Result: slight irritation Test substance: n-Hexane

Repeated dose toxicity	:	Species: Rat Application Route: Inhalation Exposure time: 8 d Test substance: n-Hexane Note: central nervous system effects structural abnormalities in sperm 5,000 ppm
	:	Species: Rat Application Route: Oral Exposure time: 90 d LOAEL (Lowest observed adverse effect level): 1,140 mg/kg Test substance: n-Hexane Note: central nervous system effects testicular effects No observed adverse effect level
	:	Species: Rat Application Route: Oral Exposure time: 90 d LOAEL (Lowest observed adverse effect level): 4,000 mg/kg Test substance: n-Hexane Note: central nervous system effects testicular effects Lowest observed adverse effect level
	:	Species: Rat Application Route: Inhalation Test substance: n-Hexane Note: Developmental Toxicity NOAEL (maternal toxicity) 1000 ppm NOAEL (developmental toxicity) 5,000 ppm
Genotoxicity in vitro	:	Test substance: n-Hexane Note: In vitro tests did not show mutagenic effects.
Genotoxicity in vivo	:	Test substance: n-Hexane Note: In vivo tests did not show mutagenic effects

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish	:	LC50: 4.14 mg/l

Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Test substance: n-Hexane

: LC50: 2.5 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)
Test substance: n-Hexane

: LC50: 4.12 mg/l
Exposure time: 96 h
Species: Lepomis macrochirus (Bluegill sunfish)
Test substance: n-Hexane

Toxicity to daphnia and other aquatic invertebrates : LC50: 3.87 mg/l
Exposure time: 96 h
Species: Daphnia magna (Water flea)
Test substance: n-Hexane

Further information on ecology

Additional ecological information : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Should not be released into the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT	UN/ID No.	:	UN 1208
	Proper shipping name	:	HEXANES
	Class		3
	Packing group		II
	Hazard Labels		3
IATA	UN/ID No.	:	UN 1208
	Description of the goods	:	HEXANES

	Class	:	3
	Packaging group	:	II
	Hazard Labels	:	3
	Packing instruction (cargo aircraft)	:	364
	Packing instruction (passenger aircraft)	:	353
	Packing instruction (passenger aircraft)	:	Y341
IMDG	UN/ID No.	:	UN 1208
	Description of the goods	:	HEXANES
	Class	:	3
	Packaging group	:	II
	Hazard Labels	:	3
	EmS Number	:	F-E, S-D
	Marine pollutant	:	yes

SECTION 15. REGULATORY INFORMATION

Inventories

US. Toxic Substances Control Act	:	On TSCA Inventory
Australia. Industrial Chemical (Notification and Assessment) Act	:	On the inventory, or in compliance with the inventory
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	:	All components of this product are on the Canadian DSL
Japan. Kashin-Hou Law List	:	On the inventory, or in compliance with the inventory
Korea. Existing Chemicals Inventory (KECI)	:	On the inventory, or in compliance with the inventory
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	:	On the inventory, or in compliance with the inventory
China. Inventory of Existing	:	On the inventory, or in compliance with the inventory

Chemical Substances

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

National regulatory information

US. EPA CERCLA Hazardous Substances (40 CFR 302) : The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):

Reportable quantity: 5000 lbs
: n-Hexane 110-54-3

SARA 302 Components : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:
: n-Hexane 110-54-3

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

CERCLA Reportable Quantity : 5000 lbs

California Prop. 65 :

WARNING: This product can expose you to chemicals, listed below, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Benzene	71-43-2
n-Hexane	110-54-3
Benzene	71-43-2

Massachusetts RTK : n-Hexane 110-54-3
: Benzene 71-43-2

New Jersey RTK : n-Hexane 110-54-3
: Other Hexanes

Pennsylvania RTK	:	n-Hexane	110-54-3
	:	Other Hexanes	

SECTION 16. OTHER INFORMATION

		HMIS III	NFPA
Health hazard	:	1*	1
Flammability	:	3	3
Physical Hazard	:	0	
Instability	:		0

* - Chronic health hazard
Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
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