
M A T E R I A L S A F E T Y D A T A S H E E T

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 342130
 NAME: Cyclohexanol
 SYNONYMS: Cyclohexyl alcohol
 24 HOUR EMERGENCY TELEPHONE: Within USA/Canada: +1 800-633-8253
 Outside USA/Canada: +1 801-629-0667
 TO REQUEST AN MSDS: +1 888-535-2444
 CUSTOMER SERVICE: +1 888-535-2444

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

OSHA HAZARDS Combustible Liquid, Target Organ Effect, Harmful by ingestion., Harmful by skin absorption., Irritant

Other hazards which do not result in classification May form explosive peroxides.

GHS CLASSIFICATION

FLAMMABLE LIQUIDS (CATEGORY 4)
 ACUTE TOXICITY, ORAL (CATEGORY 4)
 ACUTE TOXICITY, INHALATION (CATEGORY 4)
 ACUTE TOXICITY, DERMAL (CATEGORY 4)
 SKIN IRRITATION (CATEGORY 2)
 EYE IRRITATION (CATEGORY 2A)
 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3)
 Acute aquatic toxicity (Category 3)

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS PICTOGRAM

SIGNAL WORD

Warning

HAZARD STATEMENT(S)

H227 Combustible liquid.
 H302 + H312 Harmful if swallowed or in contact with skin
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H402 HARMFUL TO AQUATIC LIFE.

PRECAUTIONARY STATEMENT(S)

P280 Wear protective gloves/ protective clothing.
 P305 + P351 + P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING.

HMS CLASSIFICATION

HEALTH HAZARD: 2
 CHRONIC HEALTH HAZARD *
 FLAMMABILITY: 2
 PHYSICAL HAZARDS: 0

NFPA RATING

HEALTH HAZARD: 2
 FIRE: 2
 REACTIVITY HAZARD: 0

POTENTIAL HEALTH EFFECTS

INHALATION MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION.
 SKIN MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION.
 EYES CAUSES EYE IRRITATION.
 INGESTION TOXIC IF SWALLOWED.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: C₆H₁₂O
MW: 100.16
CAS-NO. 108-93-0
PURITY: ≥ 97%

SECTION 4. FIRST-AID MEASURES

GENERAL ADVICE CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT OF DANGEROUS AREA

IF INHALED IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.

IN CASE OF SKIN CONTACT WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN.

IN CASE OF EYE CONTACT RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN.

IF SWALLOWED NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.

SECTION 5. FIRE AND EXPLOSION DATA

CONDITIONS OF FLAMMABILITY Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

SUITABLE EXTINGUISHING MEDIA USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY CHEMICAL OR CARBON DIOXIDE.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS WEAR SELF CONTAINED BREATHING APPARATUS FOR FIRE FIGHTING IF NECESSARY.

HAZARDOUS COMBUSTION PRODUCTS HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - CARBON OXIDES

FURTHER INFORMATION USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS USE PERSONAL PROTECTIVE EQUIPMENT. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. EVACUATE PERSONNEL TO SAFE AREAS. BEWARE OF VAPOURS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN ACCUMULATE IN LOW AREAS.

ENVIRONMENTAL PRECAUTIONS PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

METHODS FOR CLEANING UP CONTAIN SPILLAGE, AND THEN COLLECT WITH AN ELECTRICALLY PROTECTED VACUUM CLEANER OR BY WET-BRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE SECTION 13). KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

CONDITIONS FOR SAFE STORAGE Keep container tightly closed in a dry and well-ventilated place. hygroscopic.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

COMPONENTS	CAS-NO.	VALUE	CONTROL PARAMETERS	BASIS
CYCLOHEXANOL	108-93-0	TWA	50 PPM	USA. ACGIH THRESHOLD LIMIT VALUES (TLV)
REMARKS	CENTRAL NERVOUS SYSTEM IMPAIRMENT EYE IRRITATION DANGER OF CUTANEOUS ABSORPTION			
		TWA	50 PPM 200 MG/M3	USA. OSHA - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS - 1910.1000
SKIN NOTATION				
		TWA	50 PPM 200 MG/M3	USA. OCCUPATIONAL EXPOSURE LIMITS (OSHA) - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS
THE VALUE IN MG/M3 IS APPROXIMATE.				
		TWA	50 PPM 200 MG/M3	USA. NIOSH RECOMMENDED EXPOSURE LIMITS
POTENTIAL FOR DERMAL ABSORPTION				

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION	WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE PARTICLE RESPIRATOR TYPE N100 US) OR TYPE P3 (EN 143) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL FACE SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).
HAND PROTECTION	HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.
EYE PROTECTION	FACE SHIELD AND SAFETY GLASSES USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).
SKIN AND BODY PROTECTION	COMPLETE SUIT PROTECTING AGAINST CHEMICALS. THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.
HYGIENE MEASURES	HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND AT THE END OF WORKDAY.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Colorless liquid
PH	6.5 AT 40 G/L AT 20 C
BOILING POINT:	160-161°C
MELTING POINT:	20-22°C
FLASH POINT	68 C (154 F) - closed cup
IGNITION TEMPERATURE	300 C (572 F)
AUTOIGNITION TEMPERATURE	NO DATA AVAILABLE
LOWER EXPLOSION LIMIT	1.25 %(V)
UPPER EXPLOSION LIMIT	12.25 %(V)
DENSITY	0.948 G/CM3 AT 25 C (77 F)
VAPOR PRESSURE	1.31 HPA (0.98 MMHG) AT 25 C (77 F)
WATER SOLUBILITY	NO DATA AVAILABLE
PARTITION COEFFICIENT: N-OCTANOL/WATER	log Pow: 1.25 at 25 C (77 F)
ODOR	NO DATA AVAILABLE
ODOR THRESHOLD	NO DATA AVAILABLE
RELATIVE VAPOR DENSITY	4.01
EVAPORATION RATE	NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
MATERIALS TO AVOID	STRONG OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS	HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - CARBON OXIDES OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE
CONDITIONS TO AVOID	HEAT, FLAMES AND SPARKS.
POSSIBILITY OF HAZARDOUS REACTIONS	NO DATA AVAILABLE

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY	<p>ORAL LD50 LD50 ORAL - RAT - 1,400 MG/KG REMARKS: BEHAVIORAL: SOMNOLENCE (GENERAL DEPRESSED ACTIVITY). LUNGS, THORAX, OR RESPIRATION: OTHER CHANGES. NUTRITIONAL AND GROSS METABOLIC: WEIGHT LOSS OR DECREASED WEIGHT GAIN.</p> <p>INHALATION LC50 NO DATA AVAILABLE</p> <p>DERMAL LD50 LD50 DERMAL - RABBIT - > 1,000 MG/KG</p> <p>OTHER INFORMATION ON ACUTE TOXICITY NO DATA AVAILABLE</p>
SKIN CORROSION/IRRITATION	SKIN - RABBIT - SKIN IRRITATION
SERIOUS EYE DAMAGE/EYE IRRITATION	EYES - RABBIT - MODERATE EYE IRRITATION
RESPIRATORY OR SKIN SENSITIZATION	NO DATA AVAILABLE
GERM CELL MUTAGENICITY	GENOTOXICITY IN VITRO - HUMAN LEUKOCYTE CYTOGENETIC ANALYSIS GENOTOXICITY IN VITRO - MAMMAL LYMPHOCYTE DNA DAMAGE
CARCINOGENICITY	
IARC:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.
ACGIH:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY ACGIH.
NTP:	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.
OSHA:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY OSHA.
REPRODUCTIVE TOXICITY	<p>REPRODUCTIVE TOXICITY - RAT SUBCUTANEOUS PATERNAL EFFECTS: SPERMATOGENESIS (INCLUDING GENETIC MATERIAL, SPERM MORPHOLOGY, MOTILITY, AND COUNT). PATERNAL EFFECTS: TESTES, EPIDIDYMIS, SPERM DUCT. PATERNAL EFFECTS: PROSTATE, SEMINAL VESSICLE, COWPER'S GLAND, ACCESSORY GLANDS.</p> <p>REPRODUCTIVE TOXICITY - GERBIL - SUBCUTANEOUS PATERNAL EFFECTS: SPERMATOGENESIS (INCLUDING GENETIC MATERIAL, SPERM MORPHOLOGY, MOTILITY, AND COUNT). PATERNAL EFFECTS: TESTES, EPIDIDYMIS, SPERM DUCT. PATERNAL EFFECTS: PROSTATE, SEMINAL VESSICLE, COWPER'S GLAND, ACCESSORY GLANDS.</p>
TERATOGENICITY	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (GLOBALLY HARMONIZED SYSTEM)	MAY CAUSE RESPIRATORY IRRITATION.
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (GLOBALLY HARMONIZED SYSTEM)	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE
SIGNS AND SYMPTOMS OF EXPOSURE	PROLONGED OR REPEATED EXPOSURE CAN CAUSE:, HEADACHE, NAUSEA, TREMORS, INCOORDINATION., BURNING SENSATION, COUGH, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, VOMITING, TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
SYNERGISTIC EFFECTS	NO DATA AVAILABLE
ADDITIONAL INFORMATION	RTECS: GV7875000

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY	TOXICITY TO FISH LC50 - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 705 MG/L - 96 H
	TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES EC50 - DAPHNIA MAGNA (WATER FLEA) - > 500 MG/L - 48 H
	TOXICITY TO ALGAE EC50 - DESMODESMUS SUBSPICATUS (GREEN ALGAE) - 29.2 MG/L - 72 H
PERSISTENCE AND DEGRADABILITY	NO DATA AVAILABLE
BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE
MOBILITY IN SOIL	NO DATA AVAILABLE
PBT AND VPVB ASSESSMENT	NO DATA AVAILABLE
OTHER ADVERSE EFFECTS	AN ENVIRONMENTAL HAZARD CANNOT BE EXCLUDED IN THE EVENT OF UNPROFESSIONAL HANDLING OR DISPOSAL. HARMFUL TO AQUATIC LIFE. NO DATA AVAILABLE

SECTION 13. DISPOSAL CONSIDERATIONS

PRODUCT

THIS COMBUSTIBLE MATERIAL MAY BE BURNED IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.

CONTAMINATED PACKAGING

DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT REGULATIONS:

PROPER SHIPPING NAME:	COMBUSTIBLE LIQUID, N.O.S. (CYCLOHEXANOL)
UN#:	NA-NUMBER: 1993
CLASS:	CBL
PACKING GROUP:	III
MARINE POLLUTANT:	NO
POISON INHALATION HAZARD:	NO

IMDG: NOT DANGEROUS GOODS

IATA REGULATIONS: NOT DANGEROUS GOODS

SECTION 15. REGULATORY INFORMATION

OSHA HAZARDS

COMBUSTIBLE LIQUID, TARGET ORGAN EFFECT, HARMFUL BY INGESTION., HARMFUL BY SKIN ABSORPTION., IRRITANT

SARA 302 COMPONENTS

SARA 302: 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:

	CAS-NO.	REVISION DATE
CYCLOHEXANOL	108-93-0	04-24-1993

SARA 311/312 HAZARDS

FIRE HAZARD, ACUTE HEALTH HAZARD, CHRONIC HEALTH HAZARD

MASSACHUSETTS RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
CYCLOHEXANOL	108-93-0	04-24-1993

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
CYCLOHEXANOL	108-93-0	04-24-1993

NEW JERSEY RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
CYCLOHEXANOL	108-93-0	04-24-1993

CALIFORNIA PROP. 65 COMPONENTS

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

MSDS LEGEND:

MW:	MOLECULAR WEIGHT
MF:	MOLECULAR FORMULA
VOC:	VOLATILE ORGANIC COMPOUNDS
ACGIH:	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
CAS:	CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER
OSHA:	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL:	PERMISSIBLE EXPOSURE LIMIT (OSHA)
TLV:	THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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