

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.20.2014

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Cyclohexane

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : Cyclohexane

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: S25292A

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:



Flammable



Health hazard



Irritant



Environmentally Damaging

Flam Liq. 2
Skin irrit, cat 2
STOT SE 3
Asp. Tox. 1
Aquatic AcTox. 1
Aquatic ChrTox. 1

Signal word : Danger

Hazard statements:

Highly flammable liquid and vapour
Causes skin irritation
May cause drowsiness or dizziness
May be fatal if swallowed and enters airways
Very toxic to aquatic life with long lasting effects

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Precautionary statements:

If medical advice is needed, have product container or label at hand
Keep out of reach of children
Read label before use
Keep container tightly closed
Wash ... thoroughly after handling
Avoid release to the environment
Do not eat, drink or smoke when using this product
Keep away from heat/sparks/open flames/hot surfaces. No smoking
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/light/.../equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapours/spray
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Collect spillage
IF ON SKIN: Wash with soap and water
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Take off contaminated clothing and wash before reuse
If skin irritation occurs: Get medical advice/attention
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Specific treatment (see ... on this label)
Do NOT induce vomiting
In case of fire: Use ... for extinction
Store in a well ventilated place. Keep container tightly closed
Store in a well ventilated place. Keep cool
Store locked up
Dispose of contents/container to ...

Other Non-GHS Classification:

WHMIS



NFPA/HMIS



NFPA SCALE (0-4)

Health	2
Flammability	3
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

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SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 110-82-7	Cyclohexane	>95 %
Percentages are by weight		

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

After skin contact: Wash affected area with soap and water. Rinse/flush exposed skin gently using water for 15-20 minutes. Seek medical attention if irritation persists or if concerned.

After eye contact: Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

After swallowing: Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

Most important symptoms and effects, both acute and delayed:

Irritation, Nausea, Headache, Shortness of breath.;

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: Foam. Dry chemical powder. Carbon dioxide. If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

For safety reasons unsuitable extinguishing agents: Water may be ineffective because it may not cool the material below its flash point.

Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors. Risk of ignition. Flammable. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Advice for firefighters:

Protective equipment:

Additional information (precautions): Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

Environmental precautions:

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Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid splashes or spray in enclosed areas. Use only under chemical fume hood. Wear personal protective equipment. Wash hands after handling. Avoid contact with skin, eyes, and clothing. Do not breathe in vapors or spray mist. Keep away from open flames, hot surfaces and sources of ignitions. Use only non-sparking tools. Use explosion proof equipment. Take precautionary measures against static discharge.

Conditions for safe storage, including any incompatibilities:

Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Store with like hazards. Keep in a flammables area.

SECTION 8 : Exposure controls/personal protection



Control Parameters:

110-82-7, Cyclohexane , ACGIH TLV 100 ppm TWA
110-82-7 , Cyclohexane , NIOSH 1300 ppm IDLH (10% LEL)
110-82-7, Cyclohexane, NIOSH 300 ppm TWA; 1050 mg/m3 TWA

Appropriate Engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use only under fume hood.

Respiratory protection:

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

Protection of skin:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Eye protection:

Safety glasses with side shields or goggles.

General hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

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SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Clear, colorless liquid.	Explosion limit lower: Explosion limit upper:	Not Determined Not Determined
Odor:	Sweet	Vapor pressure:	104 mbar @ 20C
Odor threshold:	Not Determined	Vapor density:	2.90 (Air = 1.0)
pH-value:	Not Determined	Relative density:	0.770
Melting/Freezing point:	6.5 C	Solubilities:	Insoluble
Boiling point/Boiling range:	81C	Partition coefficient (n-octanol/water):	Not Determined
Flash point (closed cup):	- 17.99 °C (- 0.38 °F) - closed cup	Auto/Self-ignition temperature:	Not Determined
Evaporation rate:	6.1 (Butyl Acetate)	Decomposition temperature:	Not Determined
Flammability (solid,gaseous):	Not Determined	Viscosity:	a. Kinematic:Not Determined b. Dynamic: Not Determined
Density: Not Determined			

SECTION 10 : Stability and reactivity

Reactivity:

Chemical stability:No decomposition if used and stored according to specifications.

Possible hazardous reactions:Vapours may form explosive mixture with air.

Conditions to avoid:Store away from oxidizing agents, strong acids or bases. Incompatible materials,excess heat. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials:Strong acids.Strong bases.Strong oxidizing agents.

Hazardous decomposition products:Carbon oxides (CO, CO2).

SECTION 11 : Toxicological information

Acute Toxicity:		
Dermal:	>2000 mg/kg	Dermal LD50 Rabbit
Inhalation:	13.9 mg/L 4 h	Inhalation LC50 Rat
Oral:	>5000 mg/kg	Oral LD50 Rat
Chronic Toxicity: No additional information.		
Corrosion Irritation: No additional information.		
Sensitization:	Causes eye and skin irritation.	
Single Target Organ (STOT):	No additional information.	
Numerical Measures:	No additional information.	

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Carcinogenicity:	No additional information.
Mutagenicity:	Mutagenic effects have occurred in microorganisms.
Reproductive Toxicity:	No additional information.

SECTION 12 : Ecological information

Ecotoxicity

Freshwater Algae: 72 Hr EC50 Desmodesmus subspicatus: >500 mg/L

Freshwater Fish: 96 Hr LC50 Pimephales promelas: 3.96 - 5.18 mg/L [flow-through]

Freshwater Fish: 96 Hr LC50 Pimephales promelas: 23.03 - 42.07 mg/L [static]

Freshwater Fish: 96 Hr LC50 Lepomis macrochirus: 24.99 - 44.69 mg/L [static]

Freshwater Fish: 96 Hr LC50 Poecilia reticulata: 48.87 - 68.76 mg/L [static]

Persistence and degradability: Readily degradable in the environment.

Bioaccumulative potential:

Mobility in soil: Aqueous solution has high mobility in soil.

Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14 : Transport information

UN-Number

1145

UN proper shipping name

Cyclohexane

Transport hazard class(es)



Class:

3 Flammable liquids

Packing group: II

Environmental hazard:

Transport in bulk:

Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute, Fire

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SARA Section 313 (Specific toxic chemical listings):

110-82-7 Cyclohexane

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

110-82-7 Cyclohexane 1000 lbs

Proposition 65 (California):**Chemicals known to cause cancer:**

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

Canada**Canadian Domestic Substances List (DSL):**

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

None of the ingredients is listed

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:**Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

PNEC: Predicted No-Effect Concentration (REACH)

CFR: Code of Federal Regulations (USA)

SARA: Superfund Amendments and Reauthorization Act (USA)

RCRA: Resource Conservation and Recovery Act (USA)

TSCA: Toxic Substances Control Act (USA)

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NPRI: National Pollutant Release Inventory (Canada)

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

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