

# SAFETY DATA SHEET

# spectrum®



Revision date 04-May-2022

Revision Number 2

## 1. Identification

### Product identifier

**Product Name** CYCLOHEXANE, SPECTROPHOTOMETRIC GRADE, REAGENT, ACS

### Other means of identification

**Product Code(s)** SP127

**UN/ID no** UN1145

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended use** No information available

**Restrictions on use** No information available

### Details of the supplier of the safety data sheet

#### Supplier Address

Spectrum Chemical Mfg. Corp.  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

### Emergency telephone number

**Emergency Telephone** Chemtrec 1-800-424-9300

## 2. Hazard(s) identification

### Classification

Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Specific target organ toxicity (single exposure)	Category 3
Aspiration hazard	Category 1
Flammable liquids	Category 2

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Danger**

### Hazard statements

Harmful in contact with skin

Harmful if inhaled  
Causes skin irritation  
Causes eye irritation  
May cause drowsiness or dizziness  
May be fatal if swallowed and enters airways  
Highly flammable liquid and vapor



**Appearance** Clear

**Physical state** Liquid

**Odor** No information available

#### **Precautionary Statements - Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wash face, hands and any exposed skin thoroughly after handling  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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  
Keep cool  
Wear protective gloves/protective clothing/eye protection/face protection

#### **Precautionary Statements - Response**

Specific treatment (see .? on this label)  
Specific treatment (see .? on this label)  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
Call a POISON CENTER or doctor if you feel unwell  
If skin irritation occurs: Get medical advice/attention  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
Wash contaminated clothing before reuse  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Call a POISON CENTER or doctor if you feel unwell  
IF SWALLOWED: Immediately call a POISON CENTER or doctor  
Do NOT induce vomiting  
In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

#### **Precautionary Statements - Storage**

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

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

#### **Unknown acute toxicity**

#### **Other information**

Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

### **3. Composition/information on ingredients**

## Substance

Chemical name	CAS No	Weight-%	Trade secret
Cyclohexane	110-82-7	100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

## **4. First-aid measures**

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical advice/attention. Delayed pulmonary edema may occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.

### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
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### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.
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## **5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b> Large Fire	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). water spray. Alcohol resistant foam. CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ).

**Explosion data**

Sensitivity to mechanical impact none.

Sensitivity to static discharge yes.

**Special protective equipment for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures****Personal precautions**

Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Avoid breathing vapors or mists.

**Other information**

Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up****Methods for containment**

Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

**Methods for cleaning up**

Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**7. Handling and storage****Precautions for safe handling****Advice on safe handling**

Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children. Store away from other materials.

**8. Exposure controls/personal protection****Control parameters**

## Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Cyclohexane 110-82-7	No data available	300 ppm TWA 1050 mg/m <sup>3</sup> TWA	-

### Appropriate engineering controls

**Engineering controls**                      Showers  
   Eyewash stations  
   Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection**                      Tight sealing safety goggles.

**Hand protection**                              Wear suitable gloves. Impervious gloves.

**Skin and body protection**                      Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.  
   Antistatic boots.

**Respiratory protection**                      No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations**                      Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

**Physical state**                                      Liquid  
**Appearance**                                      Clear  
**Color**    Colorless  
**Odor**    No information available  
**Odor threshold**                                      No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	no data available	None known
<b>Melting point / freezing point</b>	6 °C / 42.8 °F	None known
<b>Boiling point / boiling range</b>	81 °C / 177.8 °F	None known
<b>Flash point</b>	-18 °C / -0.4 °F	None known
<b>Evaporation rate</b>	no data available	None known
<b>Flammability (solid, gas)</b>	no data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	1.3%	
<b>Vapor pressure</b>	12	None known
<b>Vapor density</b>	3	None known
<b>Relative density</b>	0.78	None known
<b>Water solubility</b>	Practically insoluble in water	None known
<b>Solubility(ies)</b>	Soluble in most organic solvents	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	245 °C / 473 °F	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	no data available	None known
<b>Dynamic viscosity</b>	No data available	None known

#### Other information

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	99+ % .?
<b>Liquid Density</b>	No information available
<b>Bulk density</b>	No information available

### **10. Stability and reactivity**

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Heat, flames and sparks. Excessive heat.
<b>Incompatible materials</b>	Strong acids. Strong bases. Strong oxidizing agents.
<b>Hazardous decomposition products</b>	None known based on information supplied.

### **11. Toxicological information**

#### Information on likely routes of exposure

##### **Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. May cause drowsiness or dizziness. Harmful by inhalation. (based on components).
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes eye irritation.
<b>Skin contact</b>	Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

#### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Redness. May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
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#### Acute toxicity

##### **Numerical measures of toxicity**

##### **Unknown acute toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Cyclohexane 110-82-7	= 12705 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 9500 ppm ( Rat ) 4 h

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Irritating to skin.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Irritating to eyes.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.
<b>STOT - repeated exposure</b>	No information available.
<b>Target organ effects</b>	respiratory system, Eyes, Skin, central nervous system.
<b>Aspiration hazard</b>	May be fatal if swallowed and enters airways.
<b>Other adverse effects</b>	No information available.
<b>Interactive effects</b>	No information available.

## 12. Ecological information

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Cyclohexane 110-82-7	EC50: >500mg/L (72h, Desmodesmus subspicatus)	LC50: 23.03 - 42.07mg/L (96h, Pimephales promelas) LC50: 24.99 - 44.69mg/L (96h, Lepomis macrochirus) LC50: 3.96 - 5.18mg/L (96h, Pimephales promelas) LC50: 48.87 - 68.76mg/L (96h, Poecilia reticulata)	-	EC50: >400mg/L (24h, Daphnia magna)

**Persistence and degradability** No information available.  
**Bioaccumulation** Inherently biodegradable.

### Component Information

Chemical name	Partition coefficient
Cyclohexane 110-82-7	3.44

**Other adverse effects** No information available.

## 13. Disposal considerations

### Waste treatment methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

## 14. Transport information

### DOT

**UN/ID no** UN1145  
**Proper Shipping Name:** Cyclohexane

**Hazard class** 3  
**Packing group:** II  
**Special Provisions** IB2, T4, TP1  
**Marine Pollutant** Severe Marine Pollutant  
**Description:** UN1145, Cyclohexane, 3, II  
**Emergency Response Guide Number** 128

**TDG**

**UN-No:** UN1145  
**Proper Shipping Name:** Cyclohexane  
**Hazard class** 3  
**Packing Group:** II  
**Description:** UN1145, Cyclohexane, 3, II

**MEX**

**UN-No** UN1145  
**Proper Shipping Name** Cyclohexane  
**Hazard class** 3  
**Packing Group** II  
**Description** UN1145, Cyclohexane, 3, II

**ICAO (air)**

**UN-No:** UN1145  
**Proper Shipping Name:** Cyclohexane  
**Hazard class** 3  
**Packing Group:** II  
**Description:** UN1145, Cyclohexane, 3, II

**IATA**

**UN number** UN1145  
**Proper Shipping Name:** Cyclohexane  
**Transport hazard class(es)** 3  
**Packing group** II  
**Description:** UN1145, Cyclohexane, 3, II

**IMDG**

**UN number** UN1145  
**Proper shipping name** Cyclohexane  
**Transport hazard class(es)** 3  
**Packing group** II  
**EmS-No** F-E, S-D  
**Marine pollutant** P  
**Description** UN1145, Cyclohexane, 3, II, (-18°C c.c.), Marine pollutant

**RID**

**UN number** UN1145  
**Proper Shipping Name:** Cyclohexane  
**Transport hazard class(es)** 3  
**Packing group** II  
**Classification code** F1  
**Description:** UN1145, Cyclohexane, 3, II, ENVIRONMENTALLY HAZARDOUS  
**Labels** 3

**ADR**

**UN number** 1145  
**Proper Shipping Name:** Cyclohexane  
**Transport hazard class(es)** 3  
**Packing group** II  
**Classification code** F1  
**Tunnel restriction code** (D/E)  
**Description:** 1145, Cyclohexane, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS  
**Labels** 3

**ADN**

**UN/ID No** UN1145



Proper shipping name	Cyclohexane
Transport hazard class(es)	3
Packing Group	II
Classification code	F1
Description	UN1145, Cyclohexane, 3, II, ENVIRONMENTALLY HAZARDOUS
Hazard label(s)	3
Limited quantity (LQ)	1 L
ventilation	VE01
Equipment Requirements	PP, EX, A

## 15. Regulatory information

### International Inventories

**TSCA** Complies

**DSL/NDSL** Complies  
**EINECS/ELINCS** Complies  
**ENCS** This product complies with ENCS:  
**IECSC** This product complies with China:  
**KECL** Complies  
**PICCS** Complies  
**AICS** All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

#### **Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Cyclohexane - 110-82-7	1.0

#### **SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### **CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Cyclohexane 110-82-7	1000 lb final RQ 454 kg final RQ	-

### US State Regulations

### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

### **U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Cyclohexane 110-82-7	0565	Present	Environmental hazard

### **U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## **16. Other information**

### **NFPA**

**Health hazards** 3

**Flammability** 3

**Instability** 0

**Physical and chemical properties** -

### **HMIS**

**Health hazards** 2

**Flammability** 3

**Physical hazards** 0

**Personal protection** X

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

### **Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

**Revision date** 04-May-2022

**Revision Note** No information available.

### **Disclaimer**

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.

**End of Safety Data Sheet**