

SAFETY DATA SHEET

Preparation Date: 10/10/2018

Revision Date: 10/10/2018

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: D2680
Product Name: DICYCLOHEXYLAMINE

Other means of identification

Synonyms: N-Cyclohexylcyclohexanamine
 N,N-Diclohexylamine
 Dodecahydrodiphenylamine
CAS #: 101-83-7
RTECS # HY4025000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Chemical intermediate. Insecticide. Plasticizers.
Uses advised against No information available

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

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1

Label elements

Danger

Hazard statements

Causes severe skin burns and eye damage
 Toxic if swallowed

Toxic in contact with skin
Harmful if inhaled



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Very toxic to aquatic life with long lasting effects

Very toxic to aquatic life

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Call a POISON CENTER or doctor/physician if you feel unwell

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Rinse mouth

Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Dicyclohexylamine	101-83-7	100

4. FIRST AID MEASURES

First aid measures

Product code: D2680

Product name:
DICYCLOHEXYLAMINE

2 / 12

General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

Skin Contact: Toxic in contact with skin. Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Get medical attention immediately. Call a physician or Poison Control Centre immediately.

Eye Contact: Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention.

Ingestion: Toxic if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms Severe skin and eye irritation or burns
May cause irritation of respiratory tract
May cause nausea and vomiting
May cause muscle weakness
Convulsions
Coughing and wheezing
May cause shortness of breath

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO₂). Dry chemical. Alcohol-resistant foam. Water spray.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Monoxide, Carbon Dioxide. Nitrogen Oxides.

Specific hazards: May be combustible at high temperatures. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated.

Special Protective Actions for Firefighters

Specific Methods:

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials:

Oxidizing agents
Strong acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Product code: D2680

Product name:
DICYCLOHEXYLAMINE

4 / 12

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Dicyclohexylamine	101-83-7	None	None	None	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Dicyclohexylamine	101-83-7	None	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Dicyclohexylamine	101-83-7	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Face-shield.

Skin and body protection: Gloves
Chemical resistant apron
Long sleeved clothing
If working with large quantities:
Chemical resistant protective suit

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Liquid

Appearance:

No information available.

Color:

Colorless.

Odor:

Fish-like. Amine-like.

Taste

No information available.

Formula:

(C₆H₁₁)₂NH

Molecular/Formula weight (g/mole):

181.32

Flammability:

No information available

Flashpoint (°C/°F):

96-105°C/205-221°F

Flash Point Tested according to:

Closed cup

Autoignition Temperature (°C/°F):

240°C/464°F

Lower Explosion Limit (%):

0.8-0.9

Upper Explosion Limit (%):

Product code: D2680

Product name:
DICYCLOHEXYLAMINE

5 / 12

6.9-7.4

Melting point/range(°C/°F):
-2°C/28°F

Decomposition temperature(°C/°F):
No information available

Boiling point/range(°C/°F):
256°C/492.8°F

Bulk density:
No information available

Density (g/cm3):
No information available

Specific gravity:
0.9104

pH:
No information available

Vapor pressure @ 20°C (kPa):
No information available

Evaporation rate:
No information available

Vapor density:
6.25

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

Partition coefficient (n-octanol/water):
No information available

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Sparingly soluble in water
Soluble in Ethanol
Soluble in Ether
Soluble in Benzene

10. STABILITY AND REACTIVITY

Reactivity

No information available

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Oxidizing agents
Strong acids

Hazardous decomposition products: When heated to decomposition it emits toxic fumes. Carbon monoxide. Nitrogen oxides (NOx).

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Skin. Ingestion. Inhalation. Eyes.

Acute Toxicity

Component Information

Product code: D2680

Product name:
DICYCLOHEXYLAMINE

6 / 12

Dicyclohexylamine	
CAS-No.	101-83-7

LD50/oral/rat = 373 mg/kg Oral LD50 Rat; 200 mg/kg
LD50/oral/mouse = 500 mg/kg
LD50/dermal/rabbit = > 200 < 316 mg/kg
LD50/dermal/rat = No information available
LC50/inhalation/rat = >1.4 mg/l 6 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 200 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = 200 mg/kg

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = > 1.4 mg/l (6-hr)

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Severe skin irritation. Causes skin burns.

Eye Contact: Severe eye irritation. Causes eye burns.

Inhalation Harmful by inhalation. May cause irritation of respiratory tract. Symptoms may include coughing and wheezing, and shortness of breath. May cause nausea, vomiting. It may affect behavior/central nervous system (convulsions, excitement). May cause muscle weakness.

Ingestion Toxic if swallowed.

Aspiration hazard No information available.

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

Chronic Toxicity Prolonged or repeated skin contact may cause allergic reaction.

Sensitization: No information available.

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Dicyclohexylamine	101-83-7	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Dicyclohexylamine - 101-83-7

Freshwater Fish Species Data: 62 mg/L LC50 Brachydanio rerio 96 h static 1

Persistence and degradability: No information available

Bioaccumulative potential: Potential for bioconcentration in aquatic organisms is very high.

Mobility: It is expected to have moderate mobility based upon estimated Koc.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Dicyclohexylamine	101-83-7	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN2565
Proper Shipping Name: Dicyclohexylamine
Hazard Class: 8
Subsidiary Class: No information available
Packing group: III
Emergency Response Guide Number: 153
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: IB3, T4, TP1
Symbol(s): No information available
Description: UN2565, Dicyclohexylamine, 8, III

TDG (Canada)

UN-No: UN2565
Proper Shipping Name: Dicyclohexylamine
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No Information available
Description: UN2565, Dicyclohexylamine, 8, III

ADR

UN-No: UN2565
Proper Shipping Name: Dicyclohexylamine
Hazard Class: 8
Packing Group: III
Subsidiary Risk: No information available
Description: UN2565, Dicyclohexylamine, 8, III, ENVIRONMENTALLY HAZARDOUS

IMO / IMDG

UN-No: UN2565
Proper Shipping Name: Dicyclohexylamine
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No information available
EMS: F-A
Description: UN2565, Dicyclohexylamine, 8, III, Marine pollutant

RID

UN-No: UN2565
Proper Shipping Name: Dicyclohexylamine
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Description: UN2565, Dicyclohexylamine, 8, III, ENVIRONMENTALLY HAZARDOUS

ICAO

UN-No: UN2565
Proper Shipping Name: Dicyclohexylamine
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Description: UN2565, Dicyclohexylamine, 8, III

IATA

UN-No: UN2565

Proper Shipping Name: Dicyclohexylamine
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 8L
Special Provisions No information available
Description: UN2565, Dicyclohexylamine, 8, III

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Dicyclohexylamine	101-83-7	Present ACTIV E	Present KE-10270	Present	Present (3)-2686,(3)-2 259	Present	Present	Present 202-980-7

U.S. Regulations

Dicyclohexylamine

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0678
Pennsylvania RTK: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Dicyclohexylamine	101-83-7	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Dicyclohexylamine	101-83-7	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Dicyclohexylamine	101-83-7	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component

WHMIS 2015 Hazard Classification

Product code: D2680

Product name:
DICYCLOHEXYLAMINE

10 / 12

Dicyclohexylamine
101-83-7 (100)

Corrosive to metals - Category 1 May be corrosive to metals (H290)
Acute toxicity - oral - Category 4 Harmful if swallowed (H302)
Skin corrosion - Category 1 Causes severe skin burns and eye damage (H314)
Serious eye damage/eye irritation - Category 1 Causes serious eye damage (H318)
Health hazards not otherwise classified (corrosion)- Category 1 Causes severe damage to the respiratory tract

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Components	WHMIS Ingredient Disclosure List -
Dicyclohexylamine	0.1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Dicyclohexylamine	101-83-7	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Dicyclohexylamine	101-83-7	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Dicyclohexylamine	101-83-7	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Dicyclohexylamine	101-83-7	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage.; Hazardous to aquatic environment - acute hazard - Aquatic Acute 1: H400 Very toxic to aquatic life.; Hazardous to aquatic environment - chronic hazard - Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects.612-066-00-3

EU - CLP (1272/2008)

R-phrase(s)

R22 - Harmful if swallowed.

R34 - Causes burns.

R50 - Very toxic to aquatic organisms.

R53 - May cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S60 - This material and its container must be disposed of as hazardous waste.

S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

S 1/2 - Keep locked up and out of the reach of children.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Product code: D2680

Product name:
DICYCLOHEXYLAMINE

11 / 12

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Dicyclohexylamine	101-83-7	Xn; R22 C; R34 N; R50-53	10%<=C C; R34 2%<=C<10% Xi; R36/38	S: (1/2)-26-36/37/39-45-6 0-61

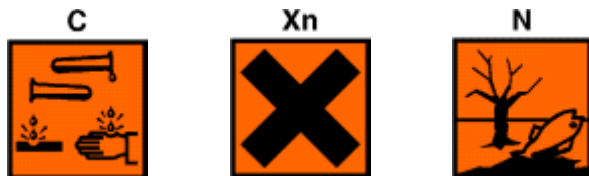
The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

C - Corrosive.

Xn - Harmful.

N - Dangerous for the environment.



16. OTHER INFORMATION

Preparation Date: 10/10/2018
Revision Date: 10/10/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet