

Safety Data Sheet

SECTION 1 Identification of the chemical and supplier

Chemical Name: dicyclohexylamine

Synonyms: -

CAS No.: 101-83-7

EC No.: 202-980-7

Molecular Formula: C₁₂H₂₃N

Recommended Uses: Please consult manufacturer.

Restrictions on Use: Please consult manufacturer.

Name of the company: Shandong Hongchuan Chemical Co., Ltd

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SECTION 2 Hazards identification

| Emergency overview

Liquid. Causes skin burns. Risk of serious damage to eyes. Risk of serious damage to eyes. Very toxic to aquatic organisms, Use appropriate container to avoid environmental contamination. May cause long-term adverse effects in the aquatic environment. Use appropriate container to avoid environmental contamination.

| Hazard classification according to GHS

According to series standards of GB 30000-2013: Rules for classification and labelling of chemicals. (Please refer to 16th chapter of SDS), hazard classification as following: Skin Corrosion/Irritation, Category 1B; Serious Eye Damage/Irritation, Category 1; Hazardous To The Aquatic Environment – Short-Term (Acute) Hazard, Category 1; Hazardous To The Aquatic Environment – Long-Term (Chronic) Hazard, Category 1.

| Label elements

Hazard pictograms



Signal word: **Danger**

Hazard statements: Causes severe skin burns and eye damage, Causes serious eye damage, Very toxic to aquatic life, Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention: Do not breathe dust/fume/gas/mist/vapours/spray. Wash ... thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection

Response: Immediately call a POISON CENTER/doctor. Wash contaminated clothing before reuse. Collect spillage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/ international regulations.

Hazard description

Physical and chemical hazards

No information available

Health hazards

Corrosive product can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. Inhalation of the product may produce adverse health effects or irritation of the respiratory tract following discomfort. Accidental ingestion of the product may be harmful to the health of the individual. The product can cause severe skin burns following direct contact with the skin. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. The product can produce severe chemical burns to the eye following direct contact. If timely and appropriate treatment is not available may cause permanent blindness. This product may cause temporary discomfort following direct contact with the eye.

Environmental hazards

This product is very toxic to aquatic life. This product is very toxic to aquatic life with long lasting effects. Please refer to 12th chapter of SDS.

SECTION 3 Composition/information on ingredients

√Substance Mixture

Component	Concentration/Range	CAS No.
Dicyclohexylamine	> = 99.0	101-83-7

SECTION 4 First aid measures

Description of first aid measures

General advice: Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.

Skin contact: Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if felt uncomfortable.

Inhalation: Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Advice for protecting the rescuer: Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. Remove all sources of ignition and increase ventilation. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use personal protective equipment including respirator .

Special note to the doctor: Treat symptomatically. Symptoms may be delayed.

SECTION 5 Firefighting measures

| Hazard characteristics

Fire may produce irritating, poisonous or corrosive gases. Containers may explode when heated. Fire exposed containers may vent contents through pressure relief valves . May expansion or decompose explosively when heated or involved in fire.

| Extinguishing method and media

Suitable extinguishing media: dry chemical, carbon dioxide or alcohol-resistant foam.

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter or spread fire.

| Fire precautions and measures

As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent)and full protective gear. Fight fire from a safe distance, with adequate cover. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6 Accidental release measures

| Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

| Environmental precautions

Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided.

| Methods and materials for containment and cleaning up

Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

SECTION 7 Handling and storage

| Precautions for handling

Handling is performed in a well ventilated place. Wear suitable protective equipment. Avoid contact with skin and eyes. Keep away from heat/sparks/open flames/ hot surfaces. Take precautionary measures against static discharges.

| Precautions for storage

Keep containers tightly closed . Keep containers in a dry, cool and well-ventilated place. Keep away from heat/sparks/open flames/ hot surfaces. Store away from incompatible materials and foodstuff containers.

SECTION 8 Exposure controls/personal protection

| Control parameters

Occupational Exposure limit values

No information available.

Biological limit values

No information available.

Monitoring methods

EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. GBZ/T 160.1~GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard) .

| Engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Set up emergency exit and necessary risk-elimination area.

| Respiratory protection

If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

| Eye protection

Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US)).

| Skin and body protection

Wear fire/flame resistant/retardant clothing and antistatic boots.

| Hand protection

Wear protective gloves (such as butyl rubber) , passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.

| Other protection

Smoking, eating and drinking water is forbidden in the workplace. After work, shower and change clothes. To maintain good health habits.

SECTION 9 Physical and chemical properties

Appearance: colorless transparent liquid	
pH (Specified the concentration) : No information available	Odor: No information available
Initial boiling point and boiling range(°C): 256	Melting point/freezing point(°C): -0.1
Vapor density(Air = 1): 6.25	Density: No information available
Saturated vapor pressure (kPa): 1.6	Relative density(Water=1): 0.912
Evaporation rate: No information available	Viscosity(mm²/s): No information available
Flash point(°C): 96.11	N-octanol/water partition coefficient: 3.5
Decomposition temperature(°C): No information available	Auto-ignition temperature(°C): 255
Upper/lower explosive limits[% (v/v)]: Upper limit : 6.9 ; Lower limit : 0.9	
Solubility: Partly miscible with water	Flammability: Not applicable

SECTION 10 Stability and reactivity

| Stability

Stable under proper operation and storage conditions.

| Incompatible materials

No information available

| 應 Conditions to avoid

Incompatible materials, heat, flame and spark.

| Hazardous reactions

No information available

| Decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 Toxicological information

| Acute toxicity

COMPONENT	CAS NO.	LD ₅₀ (ORAL)	LD ₅₀ (DERMAL)	LC ₅₀ (INHALATION)-4H
Dicyclohexylamine	101-83-7	373mg/kg(Rat)	No information available	No information available

| Carcinogenicity

ID	CAS NO.	COMPONENT	IARC	NTP
1	101-83-7	Dicyclohexylamine	Not Listed	Not Listed

| Skin irritation/corrosion

Causes severe skin burns and eye damage(Category 1B)

| Eye irritation/corrosion

Causes serious eye damage(Category 1)

| Skin sensitization

No information available

| Respiratory sensitization

No information available

| Germ cell mutagenicity

No information available

| Reproductive toxicity

No information available

| STOT-single exposure

No information available

| STOT-repeated exposure

No information available

| Aspiration hazard

No information available

SECTION 12 Ecological information

| Acute aquatic toxicity

COMPONENT	CAS NO.	FISH	CRUSTACEANS	ALGAE
Dicyclohexylamine	101-83-7	LC ₅₀ : 12mg/L (96h)(Fish)	EC ₅₀ : 8.0mg/L (48h)	ErC ₅₀ : >19mg/L (72h)

| Chronic aquatic toxicity

COMPONENT	CAS NO.	FISH	CRUSTACEANS	ALGAE
Dicyclohexylamine	101-83-7	No information available	NOEC : 0.049mg/L	NOEC : 2.0mg/L

| Persistence and degradability

No information available

| Bioaccumulative potential

No information available

| Mobility in soil

No information available

| **Other deleterious effect**

No information available.

SECTION 13 Disposal considerations

| **Disposal methods**

Product: If medical advice is needed, have product container or label at hand.

Contaminated packaging: Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.

| **Disposal considerations**

Refer to section 13.1 and 13.2.

SECTION 14 Transport information

| **UN number:** 2565

| **UN proper shipping name:** DICYCLOHEXYLAMINE

| **Transport hazard class:** 8

| **Packing group:** III

| **Label**



| **Marine pollutant (Yes/No):** Yes



| **Methods of packing**

Ampoule outside the ordinary wooden box. Threaded glass, metal cover pressure bottles, plastic bottles or metal (cans) outside the ordinary wooden box. Thread mouth glass bottles, plastic bottles or tinplate barrels (LP), full floor grille boxes, fibreboard or plywood box etc. Frosted glass bottle or threaded glass outside the ordinary wooden box. Packaging as recommended by manufacturer.

| **Precautions for transport**

Transport vehicles should be equipped with the appropriate variety and quantity of fire equipment and emergency equipment leakage during transport. Before transport, should be preceded by checking whether container integrity, sealing. The transport unit must be placarded and marked in accordance with relevant transporting requirements.

SECTION 15 Regulatory information

Regulatory information

COMPONENT	A	B	C	D	E	F	G	H
Dicyclohexylamine	Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

【A】 Catalog of Hazardous Chemicals(2015 Edition), Notice 5th 2015, China State Administration of Work Safety.

【B】 Catalog of Priority Hazardous Chemicals for Environment Management, Notice 33th 2014, Ministry of Environmental Protection of PRC.

【C】 List of Toxic Chemicals Restricted to be Imported/Exported in China, Notice 85th 2013, Ministry of Environmental Protection of PRC.

【D】 Catalog of Stupefacient and Psychotropic Substances(2013Edition), Notice 230th 2013, China Food and Drug Administration.

【E】 Catalog of Hazardous Chemicals for Priority Management(First and Second batches), Notice 95th, 2011, Notice 12th 2013, China State Administration of Work Safety.

【F】 List of Ozone Depletion Chemicals Controlled to be Imported/Exported in China(First to Sixth batches), Notice from 2000 to 2012 Ministry of Environmental Protection of PRC.

【G】 Dangerous Chemicals Directory Used to Manufacture Exploder(2011 Edition), Notice 25th Nov. 2011, Ministry of Public Security of PRC1.

【H】 Catalog of Highly Toxic Chemicals, Notice 142th 2003, China Ministry of Health.

SECTION 16 Others

Latest Revision Date: 2016/07/01

Revision explanation

This Safety Data Sheet (SDS) was prepared according to standards of 《Safety data sheet for chemical products—Content and order of sections》 (GB/T 16483-2008) and 《Guidance on the compilation of safety data sheet for chemical products》(GB/T 17519-2013). The result of GHS classification according to 《Guidance on the Catalog of Hazardous Chemicals(2015 Edition) (trial)》 and series standards of 《Rules for classification and labelling of chemicals》 (GB 30000.2-2013~GB 30000.29-2013).

Reference

【1】 IPCS: The International Chemical Safety Cards (ICSC) ,website: <http://www.ilo.org/dyn/icsc/showcard.home>.

【2】 IARC , website: <http://www.iarc.fr/>.

【3】 OECD: The Global Portal to Information on Chemical Substances, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en.

【4】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.

【5】 NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.

【6】 EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.

【7】 U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.

【8】 Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

Abbreviations and acronyms

CAS –Chemical Abstracts Service

PC-STEL- Short term exposure limit

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

CMR - Carcinogens, mutagens or substances toxic to reproduction

PC-TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC –Predicted No Effect Concentration

LC₅₀ - Lethal Concentration 50%	LD₅₀ - Lethal Dose 50%
NOEC -No Observed Effect Concentration	EC₅₀ - Effective Concentration 50%
PBT - Persistent, Bioaccumulative, Toxic	POW - Partition coefficient Octanol:Water
BCF - Bioconcentration factor (BCF)	vPvB - very Persistent, very Bioaccumulative
IMDG -International Maritime Dangerous Goods	ICAO/IATA -International Civil Aviation Organization/International Air Transportation Association
UN -The United Nations	ACGIH -American Conference of Governmental Industrial Hygienists
NFPA -National Fire Protection Association	OECD -Organization for Economic Co-operation and Development