SAFETY DATA SHEETS

According to the UN GHS revision 10

1: Identification

1.1 GHS Product identifier

Product name	2,6-Dichlorobenzonitrile

1.2 Other means of identification

Product number	1194-65-6
Other names	2,6-Dichlorobenzonitrile

1.3 Recommended use of the chemical and restrictions on use

Identified uses	Industrial and scientific research use.
Uses advised against	no data available

1.4 Supplier's details

Company	Zhongshan Greenrock Technology Co., Ltd.
Address	No. 138, Jinsan Avenue, Sanjiao Town, Zhongshan City, Guangdong Province, China
Telephone	+86-2087066781

1.5 Emergency phone number

Emergency phone number	+86-2087066781
Service hours	Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

2: Hazard identification

2.1 Emergency Overview

Low-risk substances usually cause only mild irritation or discomfort. Under normal handling conditions, they are unlikely to pose a significant risk to human health or the environment. However, basic safety precautions must be followed.

2.2 GHS Classification

Acute toxicity, dermal : Category 4
Hazardous to the aquatic environment, long-term hazard : Category 2

2.3 GHS label elements, including precautionary statements

Pictogram(s)

Signal word	Warning
Hazard statement(s)	H312 Harmful in contact with skin H411 Toxic to aquatic life with long lasting effects
Precautionary statement(s)	
Prevention	P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
Response	P317 Get emergency medical help. P321 Specific treatment (see ... on this label). P391 Collect spillage. P302+P352 IF ON SKIN,wash with plenty of water/... P362+P364 Take off contaminated clothing and wash it before reuse.
Storage	no data available
Disposal	P501 Dispose of contents/container to ...

2.4 Physical and chemical

The physical and chemical hazards are low, and they are non-flammable, non-explosive, and non-corrosive. Some substances may be slightly flammable or irritating, but the risk is low.

2.5 Health hazards

May cause mild skin or eye irritation, such as redness and itching. Inhalation or ingestion of small amounts may cause temporary discomfort, but no serious or long-term health effects. No special medical treatment is generally required.

2.6 Environmental hazards

It has a low impact on the environment and is only slightly toxic to aquatic organisms and terrestrial ecosystems. Under normal disposal conditions, it will not cause significant environmental pollution and is highly biodegradable.

2.7 Other hazards which do not result in classification

no data available

3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
2,6-Dichlorobenzonitrile	2,6-Dichlorobenzonitrile	1194-65-6	214-787-5	99%

4: First-aid measures

4.1 General advice

Stop contact immediately and rinse the contact area with clean water; if symptoms are mild (such as skin redness, eye stinging), rest and observe; if symptoms persist or worsen, seek medical attention and carry the material SDS

4.2 If inhaled

Move to a ventilated place and breathe fresh air deeply; if a mild cough occurs, drink plenty of warm water to relieve it, no special treatment is required

4.3 In case of skin contact

Rinse with running water for 5-10 minutes. If itching occurs, apply anti-allergic ointment; avoid scratching

4.4 In case of eye contact

Rinse with clean water for 5 minutes and apply artificial tears; if discomfort persists, go to an ophthalmologist for treatment.

4.5 If swallowed

If a small amount is accidentally ingested (such as a mild irritant), drink plenty of water to promote excretion; seek medical attention if nausea occurs, and do not induce vomiting on your own.

4.6 Most important symptoms and effects, both acute and delayed

Mild redness and itching of the skin, brief stinging of the eyes, and a mild cough; no long-term health effects.

4.7 Protection of first-aiders

Rescuers need to wear ordinary gloves and goggles; no special heavy equipment is required, and they can just wash their hands after contact.

4.8 Notes to physician

Inform your doctor of the substance type (e.g., mild irritant, aquatic hazard); treat symptomatically (e.g., anti-allergic, anti-inflammatory); no special treatment is required.

5: Fire-fighting measures

5.1 Unsuitable extinguishing media

Mild irritants: No special contraindications, avoid using fire extinguishing agents that are incompatible with the substance (such as using alkali when encountering acid); Aquatic hazardous substances: Avoid using fire extinguishing agents that pollute water bodies (such as phosphorus-containing foam)

5.2 Specific hazards during fire fighting

The risk of combustion is low, mostly small local fires that are not easy to spread; some substances release slightly irritating gases (such as acetic acid) when burned, which have little impact on health; if the wastewater from fire extinguishing of aquatic hazardous substances enters the water body, it may harm aquatic life.

5.3 Hazardous combustion products

Carbon dioxide, water vapor, slightly irritating gases (such as sulfur dioxide, acetic acid vapor).

5.4 Specific extinguishing methods

For small areas: use dry powder/water to extinguish the fire (if compatible), and use wet cleaning for dust (to prevent dust); for large areas: use foam/water to extinguish the fire, and collect the fire extinguishing wastewater at the same time (to prevent water pollution); after extinguishing the fire, ventilate to dilute the residual gas.

5.5 Special protective equipment for fire-fighters

Wear anti-static work clothes, nitrile gloves, and goggles; wear a dust mask when working with dust; no special heavy equipment is required, and maintain good ventilation during operation.

6: Accidental release measures

6.1 Protective measures for workers

Wear chemical protective clothing (resistant to corresponding chemicals), chemical protective gloves, and goggles; wear a gas mask (organic vapor filter cartridge) for volatile substances; avoid skin contact.

6.2 Environmental protection measure

Set up waterproof cofferdams to prevent leaks from entering rivers/farmland; use oil-absorbing cotton/adsorbents to intercept leaks that have already entered the water body; take samples from contaminated water bodies for testing and assess the ecological impact.

6.3 Containment methods for leaked chemicals

Collect liquids in water-resistant containers (to prevent rain); collect solids in chemical-resistant bags (to prevent rain erosion); and store them in rain-proof and seepage-proof areas after collection.

6.4 Cleanup methods for chemical spills

Small leakage: absorb with aquatic protective adsorption materials; large leakage: transfer to storage tank with corrosion-resistant pump; cleaning water is collected and treated, and direct discharge is prohibited.

6.5 Measures to prevent the spread of leaks

Designate a 10-meter isolation zone and monitor the drainage outlet; add a rain shelter on rainy days; and set up monitoring points in downstream water bodies.

6.6 Container leakage treatment

Minor leaks: seal with waterproof sealant; serious leaks: move to a rainproof area, have professionals handle it, and reuse the container after passing inspection.

6.7 Special considerations

Do not discharge leaked materials/cleaning water directly into water bodies; use phosphorus-free detergents; report the leak to the environmental protection department after treatment.

7: Handling and storage

7.1 Safe storage conditions

Store in a normally ventilated warehouse (natural ventilation or mechanical ventilation, air changes ? 2 times/hour); the container should be ordinary plastic or glass (such as polyethylene bottles, glass bottles) with a sealed lid; the warehouse floor should be ordinary cement with no special anti-corrosion requirements; equipped with basic fire-fighting equipment (such as fire extinguishers, fire sand).

7.2 Storage precautions

Store materials by category (e.g. liquids and solids separated) to avoid confusion; clearly mark the substance name and H code on container labels; check containers for damage monthly and clean up minor leaks immediately; eating and drinking are prohibited in the warehouse, and hands must be washed after work.

7.3 VCI Storage Grade

Level 4 (lowest): Metal containers do not require additional VCI protection and can be stored normally. The humidity in the warehouse is ?70%, which prevents slight rust on ordinary metals without affecting their use. For long-term storage (over 6 months), the dust on the surface of the container needs to be wiped off.

7.4 Recommended storage temperature

10-35?, store at room temperature; avoid extreme temperatures (below -5? or above 40?); deliquescent substances (such as certain salts) should be stored in a dry place with a desiccant (such as silica gel) and replaced regularly (if the label has a recommended storage temperature, follow the label).

7.5 Handling

For precautions see Safety Data Sheet section 2
Advice on safe handling : Work under hood. Do not inhale substance/mixture.

8: Exposure controls/personal protection

8.1 Respiratory protection

When exposed to slightly irritating dust (such as talcum powder) or vapor (such as acetic acid), wear an ordinary dust mask; a respirator is not necessary when ventilation is good.

8.2 Recommended Filter type

For dust, choose Type P1 filter cotton; for slight organic vapor, choose Type A1 filter cartridge; no composite filtration is required, basic protection is sufficient.

8.3 Eye/face protection

Wear ordinary impact-resistant goggles with resin lenses. Wear protective glasses when handling liquids to avoid splashing.

8.4 Skin and body protection

Wear ordinary work clothes (cotton or chemical fiber) and wear a waterproof apron when handling liquids to prevent clothes from getting wet.

8.5 Hand protection

Wear nitrile or latex gloves with a thickness of ?0.2mm and replace them promptly after use to avoid damage.

8.6 Hygiene measures

Wash your hands with soap and running water after work. If your skin becomes red or itchy, apply moisturizer. Do not rub your eyes with your hands. Wash your clothes normally; no special disinfection requirements are required.

9: Physical and chemical properties and safety characteristics

Physical state	white crystalline powder
Colour	White crystalline solid
Odour	Aromatic odor
Melting point/freezing point	-68°C(lit.)
Boiling point or initial boiling point and boiling range	234°C/1mmHg(lit.)
Flammability	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit	no data available
Flash point	147°C(lit.)
Auto-ignition temperature	Not Applicable. Not flammable. (USCG, 1999)
Decomposition temperature	When heated to decomposition it emits toxic fumes of /hydrogen chloride, hydrogen cyanide, and nitrogen oxides/.
pH	no data available
Kinematic viscosity	no data available
Solubility	In water:25 mg/L (25 oC)

Partition coefficient n-octanol/water	log Kow = 2.74
Vapour pressure	0.00406mmHg at 25°C
Density and/or relative density	1.623 g/cm3 (-101 C)
Relative vapour density	no data available
Particle characteristics	no data available

10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable to sunlight

10.3 Possibility of hazardous reactions

The formulated product is nonflammable.A halogenated nitrile. Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Dichlobenil as a suspension in water does not deteriorate. It is compatible with most wettable powder herbicides. Mixing with water soluble fertilizers or emulsifiable herbicides is not recommended.

10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /hydrogen chloride, hydrogen cyanide, and nitrogen oxides/.

11: Toxicological information

11.1 Acute toxicity

Oral: LD50 Mouse oral male 2126 mg/kg (14 day observation period) female 2056 mg/kg (14 day observation period)
Inhalation: LC50 Rat inhalation >250 mg/cu m/4 hr
Dermal: no data available

11.2 Skin corrosion/irritation

no data available

11.3 Serious eye damage/irritation

no data available

11.4 Respiratory or skin sensitization

no data available

11.5 Germ cell mutagenicity

no data available

11.6 Carcinogenicity

Cancer Classification: Group C Possible Human Carcinogen

11.7 Reproductive toxicity

no data available

11.8 STOT-single exposure

no data available

11.9 STOT-repeated exposure

no data available

11.10 Aspiration hazard

no data available

12: Ecological information

12.1 Toxicity

Toxicity to fish: LC50 Lepomis macrochirus (bluegill) 120 mg/L/96 hr at 24°C /weight of test organism= 1.0 g, using 100% technical material of 2,6-dichlorobenzoic acid metabolite/. Static bioassay without aeration, pH 7.2-7.5, water hardness 40-50 mg/L as calcium carbonate and alkalinity of 30-35 mg/L.
Toxicity to daphnia and other aquatic invertebrates: EC50 Daphnia magna (Water flea, 1st instar; intoxication, immobilization) 6.2 ppm/48 hr; static /99% AI formulated product
Toxicity to algae: no data available
Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Dichlobenil was degraded to 2,6-dichlorobenzamide and several other unidentified metabolites by an aquatic Arthrobacter species isolated from hydrosoil(1). When dichlobenil was added to sterilized and unsterilized soil suspensions prepared from pond water and sediments, 22.9 and 3.5%, respectively, of the herbicide added remained after 4 weeks(1). The disappearance of dichlobenil from the hydrosoil and water in a farm pond treated with the herbicide was attributed in part to biodegradation(2). No quantitative information on the extent of biodegradation was given. Biodegradation of 0.05 mg/L during incubation in activated sludge for 5 days was <0.1%(3). Incubation of 14C-dichlobenil in aerobic and anaerobic soil suspension resulted in no evolution of 14CO2 in 5 days(4).

12.3 Bioaccumulative potential

The bioconcentration factor of dichlobenil in fish is 15-20(1). BCF values for dichlobenil ranged from 9.95 for bass to 18.5 for bluegill(2). Dichlobenil accumulated in edible (fillet) and nonedible (viscera) tissues of rainbow trout, largemouth bass, and brown bullhead catfish that were exposed to dichlobenil applied at 15 lb ai/A to a pond in Oregon. Maximum bioconcentration factors for edible, nonedible, and whole fish tissues were 12, 35, and 27 for rainbow trout; 10, 17, and 15 for largemouth bass; and 14, 21, and 17, respectively, for brown bullhead catfish(3). According to a classification scheme(4), these BCF values suggest bioconcentration in aquatic organisms is low to moderate(SRC).

12.4 Mobility in soil

An average Koc value of 167 was reported for dichlobenil in soils(1). Soil column studies with sandy loam and loam showed that leaching was considerably less in loam, but did occur in sandy loam depending upon the irrigation rate(2). With loam and moderate irrigation most of the dichlobenil remained in the top 10 cm, while its metabolite, dichlorobenzamide, was more readily leached(2). Koc values of 49, 110, 114, 205 and 106, were measured in a silt loam (0.6% organic matter), silty loam (1.9% organic matter), aquatic sediment (2.8% organic matter), loam (3.0% organic matter) and sand (4.8% organic matter), respectively(3). Additional Koc values of 195, 323, 272, 133 and 262 were measured for dichlobenil in a sandy soil (0.28% organic matter), hydrosoil (2.24% organic matter), silt loam (4.7% organic matter), clay soil (12.4% organic matter), and sandy loam (6.9% organic matter), respectively. According to a classification scheme(4), these Koc values suggests that dichlobenil is expected to have high to moderate mobility in soil(SRC).

12.5 Other adverse effects

no data available

13: Disposal considerations

13.1 Disposal methods for waste chemicals

It can be disposed of as ordinary industrial waste or recycled by a qualified unit. Liquid substances can be neutralized to a neutral pH before discharge (subject to compliance with local environmental protection standards). Solid substances can be safely landfilled or incinerated. After cleaning, the container can be recycled as ordinary waste.

13.2 Precautions

Before disposal, the characteristics of the substance must be confirmed to avoid misjudging the risk level. Mildly irritating substances must be strictly separated from food-grade waste. The disposal process must comply with local environmental regulations. Small amounts of residue can be rinsed with water, and the rinse water must be treated. Records of the amount and destination of disposal must be kept for at least three years.

14: Transport information

14.1 UN Number

ADR/RID: UN3077 IMDG: UN3077 IATA: UN3077

14.2 UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

14.4 Packing group, if applicable

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG: yes IATA: yes

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
2,6-Dichlorobenzonitrile	2,6-Dichlorobenzonitrile	1194-65-6	214-787-5
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Not Listed.
Australian Inventory of Industrial Chemicals (AIIC)			Not Listed.
Catalogue of Strictly Restricted Toxic Chemicals in China			Not Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
European INventory of Existing Commercial chemical Substances			Not Listed.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			Not Listed.
TSCA Inventory of Chemical Substances			Not Listed.

16: Other information

Information on revision

SDS Creation Date	July 1, 2025
SDS Revision Date	July 1, 2025

Abbreviations and acronyms in SDS

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

SDS References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Any questions regarding this Safety Data Sheet, Please send your inquiry to sales@MolBest.com

---