

SAFETY DATA SHEET

Conforms to GB13690-2009, GB/T16483-2008、Globally Harmonized System of Classification & Labelling of Chemicals(GHS)

VULKACIT DZ/EG-C

00434825

Section 1. Chemical product and company identification

GHS product identifier : VULKACIT DZ/EG-C

Recommended use of the product and restrictions on use : Accelerator

Supplier/Manufacturer : LANXESS Chemical (China) Co., Ltd.
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朗盛化学(中国)有限公司
上海市黄浦区湖滨路150号企业天地商业中心5号楼6楼
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Section 2. Hazards identification

Classification of the substance or mixture according to GB 13690-2009 and GB 30000-2013

Emergency overview

Solid. [Granular solid.]

Beige.

Odourless.

May cause an allergic skin reaction. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

See Section 12 for environmental precautions.

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1
ACUTE AQUATIC HAZARD - Category 2
LONG-TERM AQUATIC HAZARD - Category 3

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 - May cause an allergic skin reaction.
H401 - Toxic to aquatic life.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves. Avoid release to the environment. Avoid breathing dust.
Contaminated work clothing should not be allowed out of the workplace.

Section 2. Hazards identification

- Response** : ☒ ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention.
- Storage** : Not applicable.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Physical and chemical hazards** : ☒ No known significant effects or critical hazards.
- Health hazards** : ☒ May cause an allergic skin reaction.
- Environmental hazards** : ☒ Toxic to aquatic life. Harmful to aquatic life with long lasting effects.
- Other hazards which do not result in classification** : ☒ None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.
- Product definition** : Preparation based on N,N-Dicyclohexyl-2-benzothiazyl sulphenamide

CAS number/other identifiers

Ingredient name	%	CAS number
☒ 2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	≥95	4979-32-2
2,2'-Dibenzothiazole disulfide	≤0.9	120-78-5
N-tert.-Butyl-2-benzothiazolyl sulfonamide	≤0.9	95-31-8
Dicyclohexylamine	≤0.4	101-83-7

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Section 4. First aid measures

- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : ☒ No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : ☒ No specific data.
- Inhalation** : ☒ No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : ☒ No specific treatment.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media : In case of fire, use water spray (fog), foam or dry chemical.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Fine dust clouds may form explosive mixtures with air.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Put on appropriate personal protective equipment.

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Harmful to aquatic life with long lasting effects. Collect spillage.

Methods and material for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Keep in the original

Section 7. Handling and storage

container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Remarks : Take precautionary measures against electrostatic discharges.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits : Not available, all components are not listed in GBZ2.1-2007 at present.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Recommended: safety glasses with side-shields

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations
Recommended: (< 1 hour) Polyvinyl chloride - PVC , Nitrile rubber - NBR , Polychloroprene - CR

Section 8. Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear protective clothing. Possible: Permeation resistant clothing and foot protection. Permeation resistant gloves
- Other skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear protective clothing.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Dust-protection mask if there is a risk of dust formation.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [Granular solid.]
- Colour** : Beige.
- Odour** : Odourless.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point** : >96°C (>204,8°F)
- Boiling point** : Not available.
- Flash point** : Not available.
- Burning time** : Not available.
- Burning rate** : Not available.
- Evaporation rate** : Not available.
- Risk of dust explosion** : In the case of dusty organic products the possibility of a dust explosion should always be considered.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapour pressure** : <0.0001 hPa (20°C)
- Vapour density** : Not available.
- Density** : 1,2 kg/L (20°C)
- Relative density** : Not available.
- Solubility** : 0,0000019 g/l (water)
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : >300°C (>572°F)
- SADT** : Not available.
- Viscosity** : Not available.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Take precautionary measures against static discharges. In the case of dusty organic products the possibility of a dust explosion should always be considered.
- Incompatible materials** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-	EPA OPP 81-1 Acute Oral Toxicity
N-tert.-Butyl-2-benzothiazolyl sulfonamide	LD50 Oral	Rat - Male, Female	>6310 mg/kg	-	-
2,2'-Dibenzothiazole disulfide	LD50 Oral	Rat - Male, Female	>7940 mg/kg	-	-
Dicyclohexylamine	LD50 Oral	Rat	200 mg/kg	-	-
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	LD50 Dermal	Rabbit - Male, Female	>5000 mg/kg	-	EPA OPP 81-2 Acute Dermal Toxicity
N-tert.-Butyl-2-benzothiazolyl sulfonamide	LD50 Dermal	Rabbit - Male, Female	>7940 mg/kg	-	-
2,2'-Dibenzothiazole disulfide	LD50 Dermal	Rabbit - Male, Female	>7940 mg/kg	-	-
Dicyclohexylamine	LD50 Dermal	Rabbit	200 to 316 mg/kg	-	-
Dicyclohexylamine	LC50 Inhalation Vapour	Rat	>1,4 mg/l	6 hours	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	Reversibility
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	Skin - Primary dermal irritation index (PDII)	Rabbit	0	4 hours	-	
	Skin - Primary dermal irritation index (PDII)	Rabbit	0,1	24 hours	-	
	Eyes - Cornea opacity	Rabbit	0	24 hours	-	
	Eyes - Iris lesion	Rabbit	0	24 hours	-	

Section 11. Toxicological information

	Eyes - Redness of the conjunctivae	Rabbit	0	24 hours	-	
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Conclusion/Summary

Skin : N,N-Dicyclohexyl-2-Benzothiazole Sulfenamide:Non-irritating

Eyes : N,N-Dicyclohexyl-2-Benzothiazole Sulfenamide:Non-irritating

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	skin	Guinea pig	Not sensitizing
2,2'-Dibenzothiazole disulfide	skin	Human	Sensitising
N-tert.-Butyl-	skin	Mouse	Sensitising
2-benzothiazolyl sulfonamide	skin	Human	Sensitising

Conclusion/Summary

Skin : 2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-*Read-across from analogue CBS, TBBS, MBS

Mutagenicity

Product/ingredient name	Test	Experiment	Result
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro	Negative
	OECD 475 Mammalian Bone Marrow Chromosomal Aberration Test	Subject: Bacteria Experiment: In vivo	Negative
		Subject: Mammalian-Animal	

Conclusion/Summary : 2,2'-Dibenzothiazole disulfide:* Read-across from: MBT

Carcinogenicity : Not available.

Reproductive toxicity

Product/ingredient name	Effects	Species	Dose	Exposure
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	-	Rabbit - Male, Female	Oral: 1000 mg/kg bw/day (NOAEL)	22 days; daily
2,2'-Dibenzothiazole disulfide	NOAEL Maternal toxicity	Rat	Oral: 127 mg/kg bw/day	20 days; 7 days per week
	NOAEL Fertility, Developmental toxicity, Maternal toxicity	Rat - Male, Female	Oral: 15000 ppm	10 weeks
	NOAEL Developmental toxicity	Rat	Oral: 596 mg/kg bw/day	20 days; 7 days per week
N-tert.-Butyl-2-benzothiazolyl sulfonamide	-	Rat - Male, Female	Oral: 1000 mg/	42 days; daily

Section 11. Toxicological information

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Conclusion/Summary : 2,2'-Dibenzothiazole disulfide:* Read-across from: MBT

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	Negative - Oral	Rat	54 mg/kg NOAEL	-

Specific target organ toxicity (single exposure) : Not available.

Specific target organ toxicity (repeated exposure) : Not available.

Aspiration hazard : Not available.

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	Sub-chronic NOAEL Oral	Rat - Male, Female	36,9 mg/kg bw/day	90 days
	Sub-acute NOAEL Dermal	Rabbit - Male, Female	2000 mg/kg bw/day	21 days
N-tert.-Butyl-2-benzothiazolyl sulfonamide	Sub-acute NOAEL Dermal	Rabbit - Male, Female	>2000 mg/kg bw/day Systemic	21 days; daily
	Sub-acute NOAEL Dermal	Rabbit - Male, Female	500 mg/kg bw/day Local	21 days; daily

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2,2'-Dibenzothiazole disulfide	Sub-chronic NOAEL Oral	Rat - Male, Female	100 mg/kg bw/ day	90 days; daily
	Sub-acute NOAEC Inhalation Dusts and mists	Rat - Male, Female	0,029 mg/m ³ Systemic	4 weeks; 6 hours per day
	Sub-acute NOAEC Inhalation Dusts and mists	Rat - Male, Female	84 mg/m ³ Local	4 weeks; 6 hours per day
	Chronic LOAEL Oral	Rat - Male, Female	150 to 250 mg/ kg bw/day	7 days per week
Dicyclohexylamine	Sub-chronic LOAEL Oral	Rat - Male, Female	2500 mg/kg	70 days; daily
	Sub-acute NOAEL Oral	Rat	40 mg/kg	-

Conclusion/Summary : 2,2'-Dibenzothiazole disulfide:*Read-across from : MBT

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Not available.	

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Result	Species	Exposure
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	OECD 211 Daphnia Magna Reproduction Test	Acute EC50 >0, 033 mg/l	Daphnia - Daphnia magna	21 days
	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50 >10000 mg/l	Micro-organism	3 hours
	OECD 201 Alga, Growth Inhibition Test	Acute IC50 >0, 012 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	OECD 203 Fish, Acute Toxicity Test	Acute LC50 >0, 033 mg/l	Fish - Oryzias latipes	96 hours
	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC >0,012 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	OECD 211 Daphnia Magna Reproduction Test	Chronic NOEC >0,0331 mg/l	Daphnia - Daphnia magna	21 days
	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test	Acute EC50 1,3 mg/l	Daphnia - Daphnia magna	48 hours
N-tert.-Butyl-2-benzothiazolyl sulfonamide	ISO 8192	Acute EC50 >10000 mg/l	Micro-organism - activated sludge	3 hours
	OECD 201 Alga, Growth Inhibition Test	Acute IC50 0, 071 mg/l	Algae - Scenedesmus capricornutum	72 hours

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2,2'-Dibenzothiazole disulfide	OECD 203 Fish, Acute Toxicity Test	Acute LC50 1,38 mg/l	Fish - <i>Oryzias latipes</i>	96 hours
	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC 0,023 mg/l	Algae - <i>Scenedesmus capricornutum</i>	72 hours
	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test	Chronic NOEC >0,16 mg/l	Daphnia - <i>Daphnia magna</i>	21 days
	early-life stage: reproduction, (sub)lethal effects*	Chronic NOEC 0,041 mg/l	Fish - <i>Oncorhynchus mykiss</i>	89 days
	EU C.2 (Acute Toxicity for <i>Daphnia</i>)	Acute EC50 211 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50 >10000 mg/l Fresh water	Micro-organism	3 hours
	EU C.3	Acute IC50 >40 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
Dicyclohexylamine	OECD 203 Fish, Acute Toxicity Test	Acute LC0 <1 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	EU C.3	Chronic NOEC ≥40 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50 712 mg/l	Bacteria	3 hours
	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test	Acute EC50 8 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours
	EU C.3 (growth rate)	Acute IC50 0,38 mg/l	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	EU C.1	Acute LC50 62 mg/l	Fish - <i>Danio rerio</i>	96 hours
	EU C.3 (growth rate)	Chronic NOEC 0,016 mg/l	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test	Chronic NOEC 0,016 mg/l	Daphnia - <i>Daphnia magna</i>	21 days

Conclusion/Summary : No harmful effect in the area of water solubility.

Persistence/degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	EU C.4-F	2 % - Not readily - 28 days	100 mg/l	Activated sludge
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	-	-	Not readily	

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2-Benzothiazole sulfenamide, N,N'-dicyclohexyl-	5,95	15 to 7310	high

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	China	IMDG	IATA
UN number		-	-
UN proper shipping name		-	-
Transport hazard class(es)		-	-
Packing group		-	-

Section 14. Transport information

Environmental hazards	No	No	No
Special precautions for user	Not regulated.	Not regulated.	Not regulated.

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Hazard notes:

Not dangerous cargo.
Keep separated from foodstuffs.

Transportation Notes

- Appropriate & sufficient fire-fighting facilities and spill emergency handling apparatus should be equipped with the transport vehicles.
- In case of products with explosive, flammable, self-reactive, pyrophoric, self-heating and oxidizing properties:
- Tank cars used in transport should be equipped with a grounding chain; a porous separator plate may be provided in the tank car to reduce static electricity shocks.
- The exhaust pipes of vehicles used for shipping this product must be equipped with fire retardant devices. The use of mechanical equipment or tools prone to sparking is prohibited.
- Protect against exposure to sun, rain and high temperatures during transit; in summer, transport should ideally be in the morning or evening.
- Keep away from fire, heat and high temperature zones during stopovers.
- When transporting over public roads, select routes compliant with regulations and do not stop over in residential or densely populated areas.

Section 15. Regulatory information

Inventory of Hazardous Chemicals

None of the components are listed.

Following regulations were referred :

1. Regulations of the Safety Administration of Dangerous Chemicals
2. Rules for classification and labeling of chemicals (30000.2~29)
3. Lists of dangerous goods (GB12268)
4. Safety Data Sheet for Chemical Products -Content and Order of Sections (GB/T16483-2008)
5. Classification and Code of Dangerous Goods (GB6944)
6. List of hazardous waste (2008.08.01)
7. GA57-92 Levels, classification and code of hypertoxic substance
8. Occupational exposure limits for hazardous agents in the workplace Part 1: Chemical hazardous agents GBZ 2.1-2007)

Section 16. Other information

History

Date of issue/Date of revision : 2017-10-10
Date of previous issue : 2017-10-10
Version : 6

Section 16. Other information

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Procedure used to derive the classification

Classification	Justification
SKIN SENSITIZATION - Category 1	Expert judgement
ACUTE AQUATIC HAZARD - Category 2	Calculation method
LONG-TERM AQUATIC HAZARD - Category 3	Calculation method

Indicates information that has changed from previously issued version.

Notice to reader

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance.