Chemical Safety Data Sheet

Section 1 IDENTIFICATION

Product: Chlorine dioxide disinfectant

Recommended use of the chemical and restrictions on use: This material can produce chlorine dioxide which can be used as disinfectant and for industry production.

Supplier's details: Hebei Erao Biotech Co.,Ltd

Emergency phone number: /

Section 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Oxidizing solids Category 2

Skin corrosion/irritation Category 3

Serious eye damage/eye irritation Category 1

Hazardous to the aquatic environment, long-term hazard Category 2

GHS Label elements, including precautionary statements:

Signal word: Danger

Hazard statement(s): May intensify fire; oxidizer. Causes mild skin irritation. Causes serious eye damage. Toxic to aquatic life with long lasting effects.

Precautionary statement(s):

Prevention:

Keep away from heat. Keep/Store away from clothing/combustible materials Take any precaution to avoid mixing with combustibles. Wear protective gloves/eye protection/face protection. Avoid release to the environment.

Response:

In case of fire: Use powder, chemical foam for extinction. If skin irritation occurs: Get medical advice/attention. 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/doctor. Collect spillage.

Storage: /

Disposal:

Dispose of contents/container to in accordance with national regulations.

Other hazards which do not result in classification: /

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
Chlorate(mainly as Sodium chlorate)	/	
Citric acid	77-92-9	
Magnesium sulfate	7487-88-9	

Section 4 FIRST AID MEASURES

Description of necessary first aid measures

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If Ingestion: Rinse mouth with water. Induce vomit. Consult a physician.

Most important symptoms/effects, acute and delayed: /

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

Section 5 FIREFIGHTING MEASURES

Suitable extinguishing media: Use foam or chemical power.

Special hazards arising from the chemical: The material is non-flammable and can help combustion and produce toxic fumes in fire.

Special protective actions for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary. Use water spray to cool unopened containers.

Section 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental precautions: Do not enter into spillage area. Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up: Contain spillage, and then collect in an clean container according to local regulations.

Section 7 HANDLING AND STORAGE

Precautions for safe handling: Wear protective gloves/eye protection/face protection/protective clothing. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking.

Conditions for safe storage, including any incompatibilities: Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Chlorine dioxide:

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³
China Occupational Exposure Limits for	Chlorine	-	0.3	-	0.8

Hazardous Agents in the Workplace	Dioxide				

Appropriate engineering controls: Local exhaust ventilation or a process enclosure ventilation system may be required.

Individual protection measures

Eye/face protection: Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

Skin protection: Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber. Impervious clothing,

Respiratory protection: Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant.

Thermal hazards: /

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, colour etc)	White solid powder.
Odour	/
Odour Threshold	/
pH	/
Melting point/freezing point	/
Initial boiling point and boiling range	/
Flash point	/
Evaporation rate	/
Flammability (solid, gas)	/
Upper/lower flammability or explosive limits	/
Vapour pressure	/
Vapour density	/
Relative density	/
Solubility(ies)	Produce toxic gas ClO_2 when contact with water.
Partition coefficient: n-octanol/water	/
Auto-ignition temperature	/
Decomposition temperature	/
Viscosity	/

Section 10 STABILITY AND REACTIVITY

Reactivity: /

Chemical stability: The material is stable in normal temperature.

Possibility of hazardous reactions: Produce toxic gas ClO_2 when contact with water.

Conditions to avoid: Spark, static electricity and moisture air.

Incompatible materials: Flammable materials, water and reducing agent.

Hazardous decomposition products: ClO_2 and so on.

Section 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Inhaled, swallowed, skin, eyes.

Symptoms related to the physical, chemical and toxicological characteristics: /

Acute health effects: Accidental ingestion of the material may be harmful and cause cough and throat pain. Oral intake cause headache, giddiness, vomit and other symptoms. This material may produce skin and eyes irritation and burn.

Chronic health effects: Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis.

Numerical measures of toxicity(such as acute toxicity estimates):

Sodium chlorate:

TOXICITY	IRRITATION
Oral (man) TDLo:286 mg/kg	Skin (rabbit):500 mg/24h - Mild
Oral (rat) LD50:1200 mg/kg	Eye (rabbit):10 mg - Mild

Citric acid:

TOXICITY	IRRITATION
Oral (rat) LD50:3000 mg/kg	Skin (rabbit):500 mg/24h - Mild
	Eye (rabbit):0.75 mg/24h-SEVERE

Magnesium sulfate:

TOXICITY	IRRITATION
Oral (man) TDLo:428 mg/kg	Nil Reported
Oral (mouse) LDLo:5000 mg/kg	

Chlorine dioxide:

TOXICITY	IRRITATION
Oral (rat) LD50:292 mg/kg	Eye (rabbit):100 mg - Mild
Inhalation (rat) LCLo:260 ppm/2h	
Inhalation (rat) LCLo:500 ppm/15 min	

Section 12 ECOLOGICAL INFORMATION

Toxicity: Toxic to aquatic life with long lasting effects.

Persistence and degradability: /

Bioaccumulative potential: Low (Sodium chlorate).

Mobility in soil: /

Other adverse effects: /

Section 13 DISPOSAL CONSIDERATIONS

Disposal methods: Burial in a land-fill specifically licensed to accept chemical. Reuse of broken container is forbidden.

Section 14 TRANSPORT INFORMATION

UN number: 1479.
UN proper shipping name: OXIDIZING SOLID, N.O.S.
Transport hazard class(es) : 5.1.
Packing group, if applicable: II.
Environmental hazards: Marine pollutant.
Special precautions for user: /

Section 15 REGULATORY INFORMATION

Regulations: This safety data sheet is in compliance with the following national standards: GB16483-2008 , GB13690-2009 , GB6944-2005 , GB/T15098-2008 , GB18218-2009 , GB15258-2009, GB6944-2005, GB190-2009, GB191-2009, GB12268-2008, GA57-1993, GB/T 15098-2008, GBZ 2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation [Published by the Ministry of Railways, 2008], Dangerous Chemicals Safety Administrative Regulation [Published by the State Council, 2011].

Section 16 OTHER INFORMATION

References	UN Recommendations on the Transport of Dangerous Goods Model Regulations UN Globally Harmonized System of Classification and Labelling of Chemicals
Form Date	12-Dec-2012

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.
Note 2: Manufacturer / supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.
Note 3: As a result of product features without the existence of certain information or no data available (such as boiling point does not exist for the solid) in the table with "/" logo.