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Safety Data Sheet

1. Chemical product and company identification

Product name : Calcium oxide

Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.
Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section : Business Administration Department, Reagent Division
Telephone number : +81-3-6214-1090
Facsimile number : +81-3-3241-1047
Mail address : BC32@kanto.co.jp
Reference No : 07087
Recommended use : For research use only
Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity (single exposure)	Category 1 (respiratory organs)
	Specific target organ toxicity (repeated exposure)	Category 1 (respiratory organs)

Hazard pictograms


Signal word : Danger

Hazard statements : Causes skin irritation
Causes serious eye damage
Causes damage to organs (respiratory organs)
Causes damage to organs (respiratory organs) through prolonged or repeated exposure

Precautionary statements

Prevention : Do not breathe dust.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.

Response : IF ON SKIN: Wash with plenty of water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Call a POISON CENTER or doctor.
Immediately call a POISON CENTER or doctor.

Get medical advice/attention if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

Storage : Store locked up.

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Synonyms : Lime

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Calcium oxide	≥ 97	CaO	Listed	215-138-9	1305-78-8

＊Concentration : After ignition.

4. First aid measures

First aid measures

First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

First-aid measures after skin contact : Wash the affected areas under running water.

First-aid measures after eye contact : Wash the affected areas under running water for at least 15 minutes. Get medical treatment.

First-aid measures after ingestion : Rinse mouth with water. Give the victim one or two glasses of water or milk. Do not induce vomiting. Get medical treatment as soon as possible.

Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

Most Important Symptoms/Effects

Symptoms/effects : Inhalation causes burning sensation, cough, breath shortness and throat ache.

5. Fire fighting measures

Suitable extinguishing media : This product is noncombustible.

Unsuitable extinguishing media : Water spray

Fire hazard : When mixed with 1/3 weight of water, it heats up to 100-300 ° C, making it possible to ignite flammable substances.

Firefighting instructions : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Personal protection (Emergency response) : Firefighters should wear protective equipment.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin or inhalation of dust.

Environmental precautions

Environmental precautions : Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment : Sweep up the chemical and place in a chemical waste container.

7. Handling and storage

Handling

Technical measures : Wear appropriate protective equipment to avoid contact with skin or inhalation of dust.

Precautions for safe handling : Avoid formation of dust and aerosols.

Storage

Storage conditions : Store in a dark, cool place and tightly closed.

Material used in packaging/containers : Glass, polyethylene, polypropylene.

8. Exposure controls / Personal protection equipment

ACGIH TWA	2 mg/m³

Appropriate engineering controls : Install a local ventilation system in case of dusty condition.

Protective equipment

Respiratory protection : If necessary, wear dust mask

Hand protection : Impervious protective gloves

Eye protection : Safety goggles

Skin and body protection : Protective clothing, protective boots

9. Physical and chemical properties

Physical state : Solid

Color : White - pale gray

Odor : Odorless

pH : The aqueous solution is strongly alkaline.

Melting point : 2572 ° C

Freezing point : No data available

Boiling point : 2850 ° C

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability : Non flammable.

Vapor pressure : No data available

Relative density : 3.37

Density	:	No data available
Relative gas density	:	No data available
Solubility	:	Water: Soluble (hydrolyzed). Organic solvents: Insoluble in ethanol.
Partition coefficient n-octanol/water (log Pow)	:	No data available
Explosive limits (vol %)	:	No data available
Viscosity, kinematic	:	No data available
Particle characteristics	:	No data available

10. Stability and reactivity

Reactivity	:	Chlorine, hydrogen sulfide, carbon dioxide, carbon disulfide, and nitrogen peroxide react well in wet or high temperatures, but do not react in well-dried ones that do not contain calcium hydroxide.
Chemical stability	:	Stable under normal conditions. In moist air, it absorbs moisture and carbon dioxide to produce calcium hydroxide and calcium carbonate.
Possibility of hazardous reactions	:	When it reacts with water, it generates heat violently and produces calcium hydroxide.
Conditions to avoid	:	Light, heat, moisture.
Incompatible materials	:	Water, acids.
Hazardous decomposition products	:	Calsium hydroxide.

11. Toxicological information

Acute toxicity (oral)	:	No classification rat LD50=5000mg/kg
Acute toxicity (dermal)	:	Classification not possible
Acute toxicity (inhalation)	:	No classification (gas) No classification (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	:	Causes skin irritation Based on the description that this substance is very irritating to moist skin, the substance was classified into category 2.
Serious eye damage/irritation	:	Causes serious eye damage Based on the description that particles of calcium oxide can cause severe burns to the eye, the substance was classified into category 1.
Respiratory sensitization	:	Classification not possible
Skin sensitization	:	Classification not possible
Germ cell mutagenicity	:	Classification not possible As for in vitro data, the result of a bacterial reverse mutation test was negative.
Carcinogenicity	:	Classification not possible
Reproductive toxicity	:	Classification not possible
STOT-single exposure	:	Causes damage to organs (respiratory organs) This substance reacts with water to form calcium hydroxide. It is described that for humans, pulmonary edema and shock are caused by short exposure to a large amount of calcium hydroxide. From the above, the substance was classified into category 1 (respiratory organs).

STOT-repeated exposure	:	Causes damage to organs (respiratory organs) through prolonged or repeated exposure It is reported that inflammation of the respiratory passages and ulceration and perforation of the nasal septum are caused by inhalation of lime in humans. Therefore, the substance was classified into category 1 (respiratory organs).
Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	Classification not possible
Aquatic chronic	:	Classification not possible

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone	:	Classification not possible

13. Disposal considerations

Ecological waste information	:	Dissolve the chemical in small amount in a large amount of water and adjust pH of the solution. After that, flush in a drain with plenty of water. Or consult approved disposal companies.
Contaminated container and packaging	:	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	:	1910
Proper Shipping Name (IMDG)	:	CALCIUM OXIDE
Packing group (IMDG)	:	III
Transport hazard class(es) (IMDG)	:	8

Air transport(IATA)

UN-No. (IATA)	:	1910
Proper Shipping Name (IATA)	:	Calcium oxide
Packing group (IATA)	:	III
Transport hazard class(es) (IATA)	:	8
Marine pollutant	:	Not applicable
MFAG-No	:	157

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : Encyclopaedia Chimica, Kyoritsu Shuppan Co, Ltd. (1963) .
Dangerous Properties of Industrial Materials,6th ed.
N.I.Sax Van Nostrand Reinhold Company (1984) .
Handbook of 17322 Chemical Products, The Chemical Daily Co. (2022) .
NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully.The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements.The information herein is only provision of information, and it does not represent a guarantee the properties of the product.The Safety Data Sheet(SDS) is prepared based on JIS Z7253.