Desiccant I・C, July 1 , 2013

Revised : May 15, 2014

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Lime-based desiccant agent, "Desiccant I・C" (Chemical name : Calcium oxide)

Company Name Sakamoto Lime Industry Co.,Ltd.

Address 273-1, Shimo, Tamana city, Kumamoto Pref. , 865-0013, Japan

Tel +81-968-76-6165

Fax +81-968-76-6130

2. SUMMARY OF DANGEROUSNESS OR HARMFUL PROPERTY（CONTENTS IN THE PACK）

GHS classification

Physical Hazards

Explosives	:Not applicable
Flammable gases	:Not applicable
Flammable aerosols	:Not applicable
Oxidizing gases	:Not applicable
Gases under pressure	:Not applicable
Flammable liquids	:Not applicable
Flammable solids	:Not classified
Self-reactive substances and mixtures	:Not applicable
Pyrophoric liquids	:Not applicable
Pyrophoric solids	:Not classified
Self-heating substances and mixtures	:Not classified
Substances and mixtures, which in contact with water, emit flammable gases	:Not classified
Oxidizing liquids	:Not applicable
Oxidizing solids	:Classification not possible
Organic peroxides	:Not applicable
Corrosive to metals	:Classification not possible

Health Hazards

Acute toxicity (orally)	:Class 5
Acute toxicity (dermal)	:Classification not possible
Acute toxicity (inhalation: gas)	:Not applicable
Acute toxicity (inhalation: vapour)	:Classification not possible
Acute toxicity (inhalation: dust, mist)	:Classification not possible
Skin corrosivity/irritancy	:Class 1C
Serious damaging property on eyes/ocular irritancy	:Class 1
Respiratory sensitization	:Classification not possible

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Skin sensitization	:Not classified
Germ cell mutagenicity	:Classification not possible
Carcinogenicity	:Classification not possible
Toxic to reproduction	:Classification not possible
Target organ/systemic toxicity (single exposure)	:Class 1 (respiratory system)
	:Class 2 (systemic toxicity, digestive organ)
Target organ/systemic toxicity (repeated exposure)	:Class 1 (respiratory system)
Attractant harmful property on respiratory organs	:Class 1
Environmental Hazards	
Hazardous to the aquatic environment (acute)	:Not classified
Hazardous to the aquatic environment (chronic)	:Not classified
Hazardous to the Ozone Layer	:Classification not possible

GHS label element

Picture display

Attention word Warning

Dangerousness or harmful property information

H303:Possibly harmful if swallowed.

H370:Impairment on internal organs (respiratory system)

H371:Fear of impairment on internal organs (systemic toxicity, digestive organ)

H372:Possible impairment on organs (respiratory system) due to long-term or repeated exposure

H304:Fear of danger to life if swallowed or taken into respiratory tract

Cautions

[Preventive measures]

P260 ; Avoid inhaling dust, fume, gas, mist, steam or spray.

P280 ; Wear protective gloves, protective glasses or face shield.

[Action] P305+P351+P338 ; When got into eyes ; Wash eyes with clean water for several minutes with care. If easy to do so, remove contact lenses. Then continue washing thereafter.

P301+P330+P331 ; When swallowed ; Rinse your mouth. Avoid forcible vomiting.

[Storage] P405 ; Store locked up.

[Disposal] P501 ; Dispose of contents / container to comply with all national and local regulations.

3. COMPOSITION AND INGREDIENT INFORMATION

Distinction of single product or mixture Mixture product (Unit packing)

Desiccant I・C

Chemical name or common name	Calcium oxide and RCOOH
Alias	Lime-based desiccant agent, "Desiccant I・C"
Particulars	The desiccant packed in the following package. Laminated package;Waterproof Paper/PE/reinforcement (imperforate)
Composition and content	Calcium oxide 85% or more addition agent RCOOH about3% other microcontaining MgO SiO_2 Fe_2O_3 Al_2O_3
Chemical property	CaO RCOOH
MITE No.	(1)-189 (2)-608
CAS No.	1305-78-8 61790-38-3

4. FIRST AID MEASURES（IN THE CASE OF TORN THE PACKAGE,AND THE CONTENTS ARE SPILLED)

Inhalation	If inhaled much, move to a place with fresh air and consult a physician, immediately.
Skin contact	Wash the part adhered with the product by using water or soapy water. Consult a physician, immediately.
Eye contact	Avoid rubbing eyes, which possibly damages eyeballs. Flush eyes with plenty of clean water (after removing contact lenses) and consult a physician, immediately.
Ingestion	Wash the mouth thoroughly with clean water. Consult a physician, immediately.

5. FIRE FIGHTING MEASURES

Fire extinguish agent	Dry sand,dry chemical powder distinguisher such as hydrogencarbonate.
Special fire-extinguishing method	The package is flammable,but the contents are nonflammable and having no danger of fire or explosion. In the case of surrounding fire, keep away this products from the site of the fire immediately. Use the suitable fire-extinguishing chemical for the fire.
Protection for fire extinguishing people	Be sure to wear protective device when executing fire extinguishing work.

6. MEASURES FOR SPILL（IN THE CASE OF TORN THE PACKAGE,AND THE CONTENTS ARE SPILLED)

Cautions for human body	Wear protective device (safety goggles, dust mask, protective gloves or protective clothes) when executing disposal work, to avoid dust inhaling or adhesion on skin.
Environmental precautions	Cover the product with a sheet etc. to prevent spreading if spilled. Exercise care in preventing spilled product into rivers.
Methods for removing	Sweep off products taking care not to generate dust and collect them in a dry empty container.

7. PRECAUTIONS FOR HANDLING AND STORAGE

Handling

Technical measure	Avoiding the mixture of extraneous material (acid, alkali, heavy metal, organic substance, dust, etc.)
Cautions	Do not do the violent handling that package is torn. Do not put in the tight space because the volume of material expand to twice in case of absorbing moisture. For hygiene,wear the protect gloves.

Storage

Suitable storage conditions	Avoiding direct sunlight,and preserved in a coll dark place.

8. EXPOSURE PREVENTION AND PROTECTION MEASURES

Not in particular.
In case of torn the package and the contents are spilled,it is as follow.

Control concentration	Not specified.

Permissible concentration

Japan Association of Industrial Health (2006 version)	Not specified.
ACGIH (2008 version)	2mg/m3 (TWA)

Protective device

Protective device for respiratory organs	Dust mask
Protective device for hands	Protective gloves (chemical gloves)
Protective device for eyes	Eye shield (goggles type)
Protective device for skin and body	Protection clothes (long-sleeved work shirt with less bodily exposure, etc.)

9. PHYSICAL AND CHEMICAL PROPERTIES（CONTENTS IN THE PACK）

Physical state

Form	Solids(Granules)
Color	Grayish white
Smell	Slightly fatty acid-smell
ph	11.0 (saturation solution)

Specific temperature or temperature range where physical state changes

Boiling point	2,850°C 1)
Melting point	2,572°C 1)
Flash point	Nonflammable, with no data
Ignition point	Nonflammable, with no data
Explosion characteristic	Nonflammable, with no data
Specific gravity	3.37 1)
Solubility	Slightly soluble in water.

10. STABILITY AND REACTIVITY（CONTENTS IN THE PACK）

Stability	Stable and nonflammable
Reactivity	Absorbs water and carbon dioxide and becomes calcium hydroxide and calcium carbonate when placed in air. Reacts with water slowly and gets reaction heat slightly.
Others	Reacts to water and sometimes vessels are broken causing by volume expansion. Mixing with acid, since this reacts violently.

11. HAZARDOUS PROPERTY INFORMATION（CONTENTS IN THE PACK）

Acute toxicity	Rat orally, male, LD_{50} > 5000mg/kg 2) Rat orally, female LD_{50} 5916mg/kg 2) Mouse orally, male LD_{50} >5000mg/kg 9) Mouse orally, female LD_{50} >5000mg/kg 9) Rat orally LD_{50} 7340mg/kg (ACGIH、2006;HSDB、2005)8)
Skin corrosivity or irritancy	Little irritancy
Serious damaging property on eyes or ocular irritancy	The stimulus felt as a foreign substance is main.
Respiratory sensitization or skin sensitization	Respiratory sensitization: No data Skin sensitization: Negative in humans test (IUCLID, 2000) 8)
Productive cell mutagenicity	Negative in mitotic recombination test using yeast. 8) Negative in Ames test (IUCLID, 2000) 8)
Carcinogenicity	No data
Reproductive toxicity	No influence in one-generation test of rat and mouse (IUCLID(2000))8)
Specific target organ or systemic toxicity (single exposure)	Dust inhalation causes the inflammation of respiratory tract or pneumonia. Swallowing by mistake quickens and weakens pulse, shallow and quickens breathing, lowers body temperature, and glottis tumor resulting in shock state with breathing difficulty. Perforation on esophagus and stomach is also caused.8)
Specific target organ or systemic toxicity (repeated exposure)	Ulcer or perforation on nasal septum 8)
Attractant harmful property on respiratory organs	Aspiration pneumonia on human was reported. 8)

12. ENVIRONMENTAL IMPACT INFORMATION（CONTENTS IN THE PACK）

Persistence and degradability	No data
Bioaccumulation potential	No data
Eco toxicity Ichthyotoxicon property	Sweet fish (1g) 24H LC_{50} 42.3mg/L 3) Sweet fish (1g) 96H LC_{50} 35.2mg/L 3)

Sweet fish (0.7g) 24H LC_{50} 25.4mg/L 3)

Sweet fish (0.7g) 96H LC_{50} 25.7mg/L 3)

13. PRECAUTIONS FOR ABANDONMENT

The solution of this product is alkaline and requires processing of neutralization etc.

Follow the rules of the local government,related law and regulations.

14. PRECAUTIONS FOR TRANSPORTATION

International regulation

U.N. classification	Not applicable
U.N. number	Not applicable
Name of U.N.goods in transit	Calcium oxide
Container grade	Not relevant.
Marine pollutant	Not relevant.
Marine regulation	Non-dangerous object
Aviation regulation	In conformity with the regulation of ICAO/IATA.

Domestic regulation

Marine regulation	Non-dangerous object
Aviation regulation	Not applicable.
Specific safety measures and conditions for transportation	Avoid violent handling and securely take measures to prevent cargo shifting not to break or moisture containers. Do not carry the product together with food or feed. Avoid overlaying a heavy load. A yellow card is required if transferring to another place.
First-aid action guide number at emergency	157

15. APPLICABLE LAWS AND REGULATIONS

Law concerning chemical substance management promotion(Pollution Release and Transfer Register: PRTR Law)	Not applicable.
Occupational Health and Safety Law	Clause 2 of Article 57, hazardous substance requiring notification of name etc.
Toxicant and Deleterious Substances Control Law	Not applicable.
Water Pollution Control Law	Not applicable.
Fire Protection Law	Clause 2 of Article 9, Substance requiring notification of storage etc. Quicklime (containing 80 % minimum of calcium oxide) stated in Clause 10 of Article 1 of Government Ordinance (500 kg)
Aviation Act	Not applicable

16. OTHER INFORMATION

Cited reference

1) Chemistry handbook, 4th edition (1993)
2) Lime No. 443 (November 1992)
3) Technical Data, Water Quality - No. 1 "Environmental Improvement of Freshwater Region by Lime", Japanese Lime Association
4) 15509 chemical product (January 2009)
5) "Global Harmonization System (GHS) for Classification and Labeling of Chemicals", Japan Chemical Industry Association Appendix 3, Cautions and Picture Display
6) "Chemical Substance Information", Japan Advanced Information Center of Safety and Health
7) International Chemical Safety Cards (ICSC), Japanese version, ICSC number 0409
8) GHS Classification Result Database (National Institute of Technology and Evaluation)
9 Analysis results of the Japan Food Research Laboratories (May 2014)

Handling of written contents

Lime-based desiccant agent, "Desiccant I・C" is usually used and threw away as unit packing.
So the contens like "PRECAUTIONS FOR HANDLING AND STORAGE" are described about unit packing.
The contents like physical and chemical characters are described about raw materials(Intecium).
The contents of descriptions above are based on documents and data currently available. We, however, do not give any guarantee about written data or evaluation. Precautions noted are intended for normal handling. Take necessary safety measures matched to purpose and usage in the case of special handling.