

SAFETY DATA SHEET

SDS No.5010-29015

Revised date April 15, 2019

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1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : 2% Potassium hydroxide Silicagel
NAME OF SUPPLIER : GL Sciences Inc.
ADDRESS : 22-1 Nishishinjuku 6-chome Shinjuku-ku Tokyo 163-1130, Japan
CHARGE SECTION : International Sales Section
TELEPHONE No. : +81-3-5323-6620
FACSIMILE No. : +81-3-5323-6621
PRODUCT No. : 5010-29015, 5010-
SDS No. : 5010-29015
Research use only.

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Skin corrosion/irritation : Category 2
Eye damage/irritation : Category 2A
Specific target organ toxicity (Single exposure)
: Category 2<respiratory system>
Specific target organ toxicity (Repeated exposure)
: Category 2<respiratory system>

HAZARDS SYMBOL :



SIGNAL WORD : Warning

HAZARD STATEMENTS :

H315 Cause skin irritation
H319 Cause serious eye irritation
H371 May cause damage to organs
H373 May cause damage to organs through prolonged or repeated exposure

PRECAUTIONARY STATEMENTS :

P260 Do not breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor.
P314 Get medical attention if you feel unwell.
P332+P313 If skin irritation occurs: Get medical attention.
P337+P313 If eye irritation persists: Get medical attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with all applicable regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL IDENTITY : Mixture

CHEMICAL NAME	CONTENT	CHEMICAL FORMULA	CAS RN	TSCA INVENTORY	EINECS No.
Potassium hydroxide	2 %	KOH	1310-58-3	Listed	215-181-3
Silicagel	98 %	SiO ₂	112926-00-8	Listed	-

4. FIRST AID MEASURES

- GENERAL ADVICE : Wash off immediately with soap and plenty of water. In the case of respirable dust, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.
- INHALATION : Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.
- SKIN CONTACT : Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.
- EYE CONTACT : Remove any contact lenses at once. Flush eyes well with flooding large amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists, consult a physician. Never rub your eyes.
- INGESTION : Rinse mouth, give plenty of water to dilute the substance. Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.

5. FIRE FIGHTING MEASURES

- EXTINGUISHING MEDIA : Powder, foam (alcohol foam), carbon dioxide, water spray.
- FIRE & EXPLOSION HAZARDS : Toxic and irritating dust, fumes or smoke may be emitted.
- SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS : Fireman should wear normal protective equipment (full bunker gear) and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

- PERSONAL PRECAUTIONS : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid raising dust and avoid contact with skin and eyes.
- ENVIRONMENTAL PRECAUTIONS : Prevent spills from entering sewers, watercourses or low areas. Comply with local disposal regulations.
- METHODS FOR CLEANING UP : Do not touch spilled material without suitable protection. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Pull all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose contaminated clothing.

7. HANDLING AND STORAGE

- HANDLING : In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Handle this product with suitable protection. After using this product, dispose of contents/container in accordance with all applicable regulations and appropriate ways.
- STORAGE : Store away from sunlight, heat and all ignition sources in well-ventilated dry place. Keep container tightly closed.
- INCOMPATIBLE PRODUCTS : Strong oxidizers, acids, reductants.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

- ENGINEERING MEASURES : Use exhaust ventilation to keep airborne concentrations below exposure limits. Use adequate ventilation.
- VENTILATION : Local Exhaust ; Necessary, Mechanical(General) ; Recommended
- CONTROL PARAMETERS

CHEMICAL NAME	ACGIH	OSHA PEL	NIOSH REL
Potassium hydroxide	STEL 2 mg/m ³	None	C 2 mg/m ³
Silica gel	Inhalable dust TWA=10mg/m ³ , Respirable dust TWA=3mg/m ³ (as PNOS)	TWA 20mppcf (80mg/m ³ /%SiO ₂) (as amorphous silica)	TWA 6mg/m ³ (as amorphous silica)

PERSONAL PROTECTION

- RESPIRATORY PROTECTION : Half or full face piece respirator, self-contained breathing apparatus, supplied air respirator, etc. Use respirators approved under appropriate government standards and follow all regulations.
- HAND PROTECTION : Safety gloves
- EYE PROTECTION : Safety glasses(goggles)
- SKIN PROTECTION : Protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	: White
PHYSICAL STATE	: Solid(Powder)
ODOR	: No data available
pH	: Strong basicity (in water)
BOILING POINT	: No data available
MELTING POINT	: No data available
FLASH POINT	: No data available
FLAMMABILITY	: No data available
AUTOIGNITION TEMPERATURE	: No data available
VAPOR PRESSURE	: No data available
SPECIFIC GRAVITY (DENSITY)	: No data available
SOLUBILITY IN	
Water	: Insoluble
Organic solvent	: Insoluble
PARTITION COEFFICIENT ;	
n-octanol/water	: No data available
DECOMPOSITION TEMPERATURE	: No data available

10. STABILITY AND REACTIVITY

REACTIVITY	: Hygroscopic. Potassium hydroxide tends to absorb carbon dioxide in air.
CHEMICAL STABILITY	: No data available
CONDITION TO AVOID	: Sunlight, heat, moisture, contact with incompatible materials.
INCOMPATIBLE MATERIALS	: Acidic materials, oxidants, reductants, alkaline compounds
HAZARDOUS DECOMPOSITION PRODUCTS	: No data available

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY -oral- (Potassium hydroxide)	: This product is not classified. : Rat LD50=273 mg/kg(SIDS,2004)
ACUTE TOXICITY -dermal-	: The classification is not possible in this product.
ACUTE TOXICITY -inhalation-	: The classification is not possible in this product.
SKIN CORROSION/IRRITATION (Potassium hydroxide)	: This product is classified in Category 2. : The solid substance is described as being corrosive. In human skin exposure cases, there were cases in which a third degree injury was caused and cases in which corrosion of tissue with small perforations was observed due to battery electrolyte (containing 25% of this substance) (SIDS(2004)). There is a description (SIDS(2004), ECETOC TR66(1995)) that the skin is corrosive in multiple skin irritation tests using rabbits. In addition, the pH of the aqueous solution of this substance is about 13, and it is described that it exhibits strong alkalinity (Suggested Reasoning Statement for Sanitary Society Acceptable Concentration(1978), PATTY(6th,2012)). The substance is classified as Skin Corr. 1A, H314 in the EU CLP classification (ECHA CL Inventory(Access on August 2017)). This substance is listed as "a single chemical substance and compound designated by the Minister of Health, Labor and Welfare in the Labor Standards Act Enforcement Regulations Annex 1 to 4 No. 1 and diseases determined by the Minister of Health, Labor and Welfare" as chemical substances causing skin disorders.
EYE DAMAGE/EYE IRRITATION (Potassium hydroxide)	: This product is classified in Category 2A. : Skin corrosion / irritation is classified in Category 1. The substance is described as corrosive to the eye at a concentration of 2.0% or more, and it is described as strongly corrosive in eye irritation tests using rabbits (SIDS (2004)). In addition, the pH of the aqueous solution of this substance is about 13, and it is described that it exhibits strong alkalinity (Proposal Reason Statement for Sanitary Society Acceptable Concentration (1978), PATTY (6th, 2012)). In addition, this is described as a substance which causes the anterior eye disorder according to "a single chemical substance and compound designated by the Minister of Health, Labor and Welfare designated by the Minister of Health, Labor and Welfare under Labor Regulation Act Enforcement Regulations Annex 1 of 4 No. 1 and diseases determined by the Minister of Health, Labor and Welfare".

(Silica gel)	: Mild conjunctival redness in eye irritation tests(OECD TG 404, Precipitated silica(Sident9)) using rabbits (SIDS (2006), ECETOC JACC (2006)). Slight or no irritation in eye irritation tests(Precipitated silica) using rabbits (SIDS (2006)).
SKIN SENSITIZATION	: The classification is not possible in this product.
GERM CELL MUTAGENICITY	: The classification is not possible in this product.
CARCINOGENICITY	: The classification is not possible in this product.
REPRODUCTIVE TOXICITY	: The classification is not possible in this product.
SPECIFIC TARGET ORGAN TOXICITY - single exposure -	: This product is classified in Category 3.
(Potassium hydroxide)	: The substance has been described as acting as a strong alkali on the skin and mucous membranes, and inhalation exposure to dust or mist may cause irritation and tissue damage in the upper respiratory tract, possibly resulting in septal injury and pulmonary edema (ACGIH (7th, 2001), SIDS (2004), PATTY (6th, 2012), Proposed reason book for Sanitary Society allowable concentration (1978)).
(Silica gel)	: Irritating to respiratory tract (SIDS (2006), ECETOC JACC (2006))
SPECIFIC TARGET ORGAN TOXICITY - repeated exposure -	: This product is classified in Category 1.
(Potassium hydroxide)	: For humans, it is noted that the injury caused by inhalation of dust and mist of this substance is mainly inflammation of the upper respiratory tract, and chronic action causes ulcers in the nasal septum. However, there are no reports of surveys and researches on airborne concentrations and the occurrence of disorders (Proposal Reasons for Sanitation Society Allowed Concentrations(1978)). Exposure to dust or mist may cause irritation of the eyes and respiratory tract, lesions of the nasal septum (ACGIH(7th, 2001)). As mentioned above, although there is not enough information, it is obvious that this substance is an alkaline substance and causes respiratory inflammation by inhalation.
ASPIRATION HAZARD	: The classification is not possible in this product.
(Potassium hydroxide)	: This is a fatal case of ingestion of this substance unintentionally or for the purpose of suicide, and some of the causes of death include aspiration from the esophagus to the trachea, pneumonia etc. (ACGIH (7th, 2001)) and there is a report that alkaline aspiration into the respiratory tract causes fatal injuries to the larynx, trachea, bronchi, and lungs (SIDS (2004)).

12. ECOLOGICAL INFORMATION

Hazardous to the aquatic environment

(Potassium hydroxide)	: This product is classified in Category 1. Crustacean(Daphnia magna) 24hr-EC50>10,000 mg/L Fish(Zebra fish) 96hr-LC50=10,000 mg/L(SIDS,2006)
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BIODEGRADABILITY : No data available

BIOACCUMULATIVE POTENTIAL : No data available

MOBILITY IN SOIL : No data available

HAZARDOUS TO THE OZONE LAYER

: Not listed in Montreal Protocol list.

13. DISPOSAL INFORMATION

Dispose in a hazardous-waste site in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environment agency for specific rules).

14. TRANSPORT INFORMATION

IATA

UN NUMBER	: 3262
UN PROPER SHIPPING NAME	: CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. (2% Potassium hydroxide Silicagel)
CLASS	: 8, Corrosives
PACKING GROUP	: III
ADR/RID	: 3262, Corrosives
DOT	: 3262, Corrosives
MARINE POLLUTANT	: Not classified

15. REGULATORY INFORMATION

For classification and labeling of chemicals in accordance with the applicable rules and regulations in the EU or each country, refer to GHS classification of this product (See Section 2).

US REGULATION : OSHA HCS 2012/29 CFR 1910.1200

EU REGULATION : CLP Regulation ((EC) No. 1272/2008)

16. OTHER INFORMATION**NOTICE:**

The information contained in the SDS description is applicable exclusively to the chemical substance identified herein and for its intended use as an analytical reference standard or reagent and to the unit quantity intended for that purpose. The information does not relate to, and may not be appropriate for, any application or larger quantity of the substance described. Our products are intended for the use by individuals possessing sufficient technical skill and qualification on use the material potential hazardous chemical. Accordingly, no representation or warranty, express or implied, with respect to merchantability and fitness for a particular purpose is made with respect to the information contained herein.

Attention:

This product in terms of chemical identity and the unit amount provide is intended for use in chemical analysis and not for human consumption, nor any other purpose.