REAGENTS DUKSAN

# SAFETY DATA SHEET

## Calcium Hydride

**Date of issue: 2019-09-02** **Revision date: 2019-09-02** **Version: R0001.0002**

## 1. IDENTIFICATION

### A. Product name

- Calcium Hydride

### B. Recommended use and restriction on use

- General use : for experimental, research and industrial use
- Restriction on use : Never drink, Not used except for experimental, research and industrial applications.

### C. Manufacturer / Supplier / Distributor information

○ **Manufacturer information**

- Company name :
- Address :
- Emergency telephone number :

○ **Supplier/Distributer information**

- Company name : DUKSAN PURE CHEMICALS
- Address : 53,SINWONRO 133BEONGIL, DANWONGU, ANSANSHI, GYUNGGIDO, KOREA
- Telephone number : 82-31-495-4055
- Emergency telephone number :
- Fax number : 82-31-495-4058

## 2. HAZARD IDENTIFICATION

### A. GHS Classification

- Substance and mixtures which, in contact with water, emit flammable gases : Category1

### B. GHS label elements

○ **Hazard symbols**



○ **Signal words**

- Danger

○ **Hazard statements**

- H260 In contact with water releases flammable gases which may ignite spontaneously

○ **Precautionary statements**

**1) Prevention**

- P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire.
- P231+P232 Handle under inert gas. Protect from moisture.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

**2) Response**

- P335+P334 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
- P370+P378 In case of fire: Use Suitable extinguishing media for extinction(Refer Section MSDS 5).

**3) Storage**

- P402+P404 Store in a dry place. Store in a closed container.

**4) Disposal**

- P501 Dispose of contents/container in accordance with local/regional/national/international regulation

### C. Other hazards which do not result in classification : (NFPA Classification)

○ **NFPA grade (0 ~ 4 level)**

- Health : 3 , Flammability : 3, Reactivity : 2

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | Trade names and Synonyms | CAS No. | Content(%) |
|---|---|---|---|
| Calcium hydride | - | 7789-78-8 | 100 |

## 4. FIRST AID MEASURES

### A. Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.

### B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.

### C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.

### D. Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.

### E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

### F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

## 5. FIREFIGHTING MEASURES

### A. Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

### B. Specific hazards arising from the chemical

- Not available

### C. Special protective actions for firefighters

- Cool containers with water until well after fire is out.
- Avoid inhalation of materials or combustion by-products.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.
- Keep away from any possible contact with water, because of violent reaction and possible flash fire.

## 6. ACCIDENTAL RELEASE MEASURES

### A. Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Must work against the wind, let the upwind people to evacuate.

- Move container to safe area from the leak area.
- Remove all sources of ignition.
- Do not contact water directly on material.

### B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

### C. Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notify the central and local government if the emission reach the standard threshold.
- Disposal of waste shall be in compliance with the Wastes Control?Act
- Appropriate container for disposal of spilled material collected.
- Small liquid state spills: Appropriate container for disposal of spilled material collected.
- Put the spilled material in an appropriate containers and clean the contaminated area

## 7. HANDLING AND STORAGE

### A. Precautions for safe handling

- Wash thoroughly after handling.
- Comply with all applicable laws and regulations for handling
- Get the manual before use.
- Dealing only with a well-ventilated place.

### B. Conditions for safe storage, including any incompatibilities

- Store according to current laws and regulations
- Keep in the original container.
- Keep sealed when not in use.
- Prevent static electricity and keep away from combustible materials or heat sources.
- Avoid contact with water.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### A. Exposure limits

○ **ACGIH TLV**

- Not available

○ **OSHA PEL**

- Not available

### B. Engineering controls

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

### C. Individual protection measures, such as personal protective equipment

○ **Respiratory protection**

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Dust, mist, fume-purifying respiratory protection
- Air-purifying respirator with high-efficiency particulate filtering
- Any respiratory protection with a electromotion fan(for dust, mist, fume-purifying)
- Self-contained breathing apparatus with a corpuscle filter of high efficiency
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

○ **Eye protection**

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

○ **Hand protection**

- Wear appropriate chemical resistant glove.

○ **Skin protection**

- Wear appropriate chemical resistant protective clothing.

○ **Others**

- Not available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| A. Appearance | |
| - Appearance | Solid(Other) |
| - Color | white |
| B. Odor | Not available |
| C. Odor threshold | Not available |
| D. pH | Not available |
| E. Melting point/Freezing point | Not available |
| F. Initial Boiling Point/Boiling Ranges | Not available |
| G. Flash point | Not available |
| H. Evaporation rate | Not available |
| I. Flammability(solid, gas) | Not available |
| J. Upper/Lower Flammability or explosive limits | Not available |
| K. Vapour pressure | Not available |
| L. Solubility | Not available |
| M. Vapour density | Not available |
| N. Specific gravity(Relative density) | 1.7-1.9 (water=1) |
| O. Partition coefficient of n-octanol/water | Not available |
| P. Autoignition temperature | Not available |
| Q. Decomposition temperature | 600-675 ℃ |
| R. Viscosity | Not available |
| S. Molecular weight | 42.09 |

## 10. STABILITY AND REACTIVITY

### A. Chemical Stability

- May form explosive mixture.

### B. Possibility of hazardous reactions

- May react violently with water

### C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
- Avoid contact with heat, sparks, flame or other ignition sources.

### D. Incompatible materials

- Not available

### E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

## 11. TOXICOLOGICAL INFORMATION

### A. Information on the likely routes of exposure

○ **(Respiratory tracts)**

- Not available

○ **(Oral)**

- Not available

○ **(Eye·Skin)**

- Not available

### B. Delayed and immediate effects and also chronic effects from short and long term exposure

○ **Acute toxicity**

*** Oral**

- Not available

*** Dermal**

- Not available

*** Inhalation**

- Not available

○ **Skin corrosion/irritation**

- Not available

○ **Serious eye damage/irritation**

- Not available

○ **Respiratory sensitization**

- Not available

○ **Skin sensitization**

- Not available

○ **Carcinogenicity**

*** IARC**

- Not available

*** OSHA**

- Not available

*** ACGIH**

- Not available

*** NTP**

- Not available

*** EU CLP**

- Not available

○ **Germ cell mutagenicity**

- Not available

○ **Reproductive toxicity**

- Not available

○ **STOT-single exposure**

- Not available

○ **STOT-repeated exposure**

- Not available

○ **Aspiration hazard**

- Not available

## 12. ECOLOGICAL INFORMATION

### A. Ecotoxicity

○ **Fish**

- [Calcium hydride] : LC50 8128.684 ㎎/ℓ 96 hr (Estimate)

○ **Crustaceans**

- [Calcium hydride] : LC50 7293.236 ㎎/ℓ 48 hr (Estimate)

○ **Algae**

- [Calcium hydride] : LC50 3932.513 ㎎/ℓ 96 hr (Estimate)

### B. Persistence and degradability

○ **Persistence**

- [Calcium hydride] : log Kow -0.57 (estimate)

○ **Degradability**

- Not available

### C. Bioaccumulative potential

○ **Bioaccumulative potential**

- Not available

○ **Biodegration**

- Not available

### D. Mobility in soil

- Not available

### E. Other adverse effects

- Not available

## 13. DISPOSAL CONSIDERATIONS

### A. Disposal methods

- Stabilization and minimization treatment by incineration or similar method can be applied, if more than two kinds of designated wastes are in mixture state and it is impractical to separate them
- Oil water separation technology shall be applied as pre-waste treatment if it is applicable
- It shall be treated by incineration

### B. Special precautions for disposal

- Anyone with business license number who generates industrial wastes shall treat the waste by him/herself or by entrusting to the legal entities who treat the wastes, recycle the wastes of others or install and operate the waste treatment facilities according to the Wastes Control Act
- Dispose of waste in accordance with all applicable laws and regulations.

## 14. TRANSPORT INFORMATION

### A. UN No. (IMDG CODE/IATA DGR)

- 1404

### B. Proper shipping name

- CALCIUM HYDRIDE

### C. Hazard Class

- 4.3

### D. IMDG CODE/IATA DGR Packing group

- I

### E. Marine pollutant

- Not applicable

### F. Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-G (Water-reactive substances)
- EmS SPILLAGE SCHEDULE : S-O (Substances dangerous when wet (non-collectable articles))

## 15. REGULATORY INFORMATION

### A. National and/or international regulatory information

○ **POPs Management Law**

- Not applicable

○ **Information of EU Classification**

*** Classification**

- [Calcium hydride] : H260

○ **U.S. Federal regulations**

*** OSHA PROCESS SAFETY (29CFR1910.119)**

- Not applicable

*** CERCLA Section 103 (40CFR302.4)**

- Not applicable

*** EPCRA Section 302 (40CFR355.30)**

- Not applicable

*** EPCRA Section 304 (40CFR355.40)**

- Not applicable

*** EPCRA Section 313 (40CFR372.65)**

- Not applicable

○ **Rotterdam Convention listed ingredients**

- Not applicable

○ **Stockholm Convention listed ingredients**

- Not applicable

○ **Montreal Protocol listed ingredients**

- Not applicable

## 16. OTHER INFORMATION

### A. Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.
- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

### B. Issue date

- 2019-09-02

### C. Revision number and Last date revised

- 1 times, 2019-09-02

### D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).