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| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     |                    |
| MSDS-Prod-001(R3)               |                                       | Page : 1/10        |

## 1. IDENTIFICATION

### 1. Product Name

- 1) Product Name : POTASSIUM CARBONATE 99.5% GRANULE
- 2) Other Name : Dipotassium carbonate, Potash, Pearl ash

### 2. Recommended Use and Restriction on Use

- 1) General use : Kali Soap •Kali Glass •Optical Glass Materials  
dyeing •tannage •Photos •Analytical reagents, ingredients for  
pharmaceuticals, Chemicals used for operations
- 2) Restriction on Use : Not available

### 3. Manufacturer/Distributor Information :

| Manufacturer                    | Address                                                         | Emergency Phone No. :                        | Division in charge        |
|---------------------------------|-----------------------------------------------------------------|----------------------------------------------|---------------------------|
| UNID Co., Ltd.<br>Incheon Plant | 115, Aam-daero 287beon-gil(Hakik-Dong), Nam-Ku, Incheon, Korea. | (TEL)+81-32-830-7777<br>(FAX)+81-32-832-4491 | Environmental Safety Team |

Home Page : [www.unid.co.kr](http://www.unid.co.kr)

## 2. HAZARD IDENTIFICATION

### 1. GHS Classification

| Physical Hazards | Health Hazards                                                                                                                     | Environmental Hazards |
|------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| -                | Skin corrosion/irritation Cat. 2<br>Serious eye damage/irritation Cat. 2<br>Specific Target organ Toxicity(single exposure) Cat. 3 | -                     |

### 2. GHS label elements, including precautionary statements

#### 1) Hazard symbols



|                                 |                                       |                    |
|---------------------------------|---------------------------------------|--------------------|
| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     | Page : 2/10        |

2) Signal word : Warning

3) Hazard statement

- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H335 May cause respiratory irritation
- H336 May cause drowsiness or dizziness

4) Precautionary statement

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prevention | <ul style="list-style-type: none"> <li>- P264 Wash thoroughly after handling.</li> <li>- P280 Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.</li> <li>- P271 Use only outdoors or in a well-ventilated area.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          |
| Response   | <ul style="list-style-type: none"> <li>- P312 Call a POISON CENTER or doctor/physician if you feel unwell.</li> <li>- P362 Take off contaminated clothing and wash before reuse.</li> <li>- P302+P352 IF ON SKIN: Wash with plenty of soap and water.</li> <li>- P332+P313 If skin irritation occurs: Get medical advice/attention.</li> <li>- P337+P313 If eye irritation persists: Get medical advice/attention.</li> <li>- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</li> <li>- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> </ul> |
| Storage    | <ul style="list-style-type: none"> <li>- P405 Store locked up.</li> <li>- P403+P233 Store in a well-ventilated place. Keep container tightly closed.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Disposal   | <ul style="list-style-type: none"> <li>- P501 Dispose of contents/container in accordance with local/regional/national/international regulation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

3. Other hazards which do not result in classification :

- NFPA Grade (0~4 level) : Health-1, Flammability-0, Reactivity-0

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name       | Other name | CAS Number | Contents(%) |
|---------------------|------------|------------|-------------|
| POTASSIUM CARBONATE | -          | 584-08-7   | 99.5%       |

| Chemical Name       | CAS NO   | KE NO     | UN NO | EN NO     |
|---------------------|----------|-----------|-------|-----------|
| POTASSIUM CARBONATE | 584-08-7 | TS7750000 | -     | 209-529-3 |

### 4. FIRST-AID MEASURES

1. Eye Contact :

|                                 |                                       |                    |
|---------------------------------|---------------------------------------|--------------------|
| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     | Page : 3/10        |

- Immediately Lift eyelid and flush eyes with flowing water.
- Lift eyelid and completely remove materials. Ensure irrigation under eyelids by occasionally lifting the upper and lower lids.
- Transport to hospital, or doctor.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

## 2. Skin Contact :

- Remove contaminated clothing and shoes immediately.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

## 3. Inhalation :

- If inhalation of fume or combustion, move to the fresh air.
- Go to where the fresh air and If you necessary, Conduct artificial respiration.
- If not breathing, give artificial respiration.
- If breathing is difficult, give oxygen.

## 4. Ingestion :

- Wash out mouth with water.
- If swallowed do NOT induce vomiting.
- Lay the patient down as head would be lower than body for suffocation prevention if occur vomiting.
- Get medical attention immediately.

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

- May cause eye, skin, respiratory irritation when exposed.
- May cause lung effect of Long-term exposure to dust of high concentrations.
- Ingestion may cause nausea, vomiting and stomach and severe digestive system irritation and burns.
- Inhalation may cause respiratory irritation.
- If contact with skin May cause irritation and Caustic effect is analogous to Potassium hydroxide.
- If contact with eye May cause irritation and Caustic effect is analogous to Potassium hydroxide.

## 6. First-aid treatment and note to physician :

- Treatment may vary with condition of victim and specifics of incident.

# 5. FIRE-FIGHTING MEASURES

## 1. Suitable (Unsuitable) extinguishing media :

- Extinguishing media : Dry chemical powder, CO2, Water, foam.
- If large fire, use regular extinguishing media or flood with fine water spray.
- Unsuitable extinguishing media : Do not use water-jet.

|                                 |                                       |                    |
|---------------------------------|---------------------------------------|--------------------|
| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     | Page : 4/10        |
| MSDS-Prod-001(R3)               |                                       |                    |

## 2. Specific hazards arising from the chemical :

- Non flammability.
- Substance itself does not Burn but Decompose when heated may cause corrosive/toxic fume.
- Fire risk can be ignored but Containers may rupture or explode if exposed.
- Hazardous combustion product :  
Thermal decomposition may produce gas or/and fume of Carbon dioxide, carbon monoxide, potassium oxide.

## 3. Special protection actions and equipments for fire-fighting :

- Firefighters should wear self contained breathing apparatus and protective clothing.
- If safe to do so, remove containers from path of fire.
- If removal is impossible, cool containers and surrounding area with water.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not allow run-off from fire fighting to enter drains or water courses.
- Do not impervious water inside containers.

# 6. ACCIDENTAL RELEASE MEASURES

## 1. Personal precautions

- Wear appropriate personal protective equipment and avoid inhalation or contact with eyes and skin.
- Wear appropriate personal protective equipment(see section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Keep unnecessary people away.
- Ventilate leak areas.
- Avoid dust formation.

Isolate of spilled material(Small spills ; Adsorption of absorbent etc.)

- Possibly collect recoverable product(used for shovel or vaccum vehicle).
- Residue is neutralized for the acid.
- Move container to safe area from the leak area.
- Wear personal protect clothes, protective equipment.

## 2. Environmental precautions :

- Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
- If large spills, advise emergency services.

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

### 1) Small spills

- Remove the spilled material.
- Use to dry removal method and Suppression occurrence of dust.

|                                 |                                       |                    |
|---------------------------------|---------------------------------------|--------------------|
| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     | Page : 5/10        |
| MSDS-Prod-001(R3)               |                                       |                    |

2) Large spills

- For disposal of spilled material in appropriate containers collected.
- Wash spill area with plenty of water.

## 7. HANDLING AND STORAGE

### 1. Handling

- Wear appropriate personal protective equipment(see section 8. EXPOSURE CONTROLS /PERSONAL PROTECTION).
- Avoid contact with incompatible materials.
- Use in a well-ventilated area.
- Do not mixed storage and transportation of grocery, fodder, medicines, food.
- When handling, DO NOT eat, drink or smoke.
- Avoid breathing dust and contact with the eyes, skin.
- Wash hands with soap and water after handling.
- Minimize occurrence of dust and accumulation.

### 2. Storage Precautionary Statements

- Save and handle applicable laws and regulations.
- the original container should be stored.
- Store away from water or moisture and store in dry area(strong hygroscopic property).
- The container withstand for physical damage should be stored.
- Save in cool, dry and well ventilated place.
- Stored in airtight containers and Avoid contact with water and moistures.
- Absorption is the cause of the reduction of the concentration with Potassium Carbonate.
- Do not store with Volatile Organic Compounds. Product may discolor.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 1. Exposure Limits

- Exposure limit under ISHL(KOREA) : Not applicable
- ACGIH limit : Not applicable
- Biological exposure limits : Not applicable

### 2. Engineering Controls

- The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

### 3. Personal Protective Equipment

#### 1) Respiratory Protection :

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.

|                                 |                                       |                    |
|---------------------------------|---------------------------------------|--------------------|
| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     | Page : 6/10        |
| MSDS-Prod-001(R3)               |                                       |                    |

- Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.
  - Dust, mist, fume-purifying respiratory protection
  - Any air-purifying respirator with a corpuscle filter of high efficiency
  - Any respiratory protection with a electromotion fan(for dust, mist, fume-purifying)
- For Unknown Concentration or Immediately Dangerous to Life or Health
  - Self-contained breathing apparatus(pressure-demand or other positive-pressure mode in combination)
  - Supplied-air respirator with full facepiece
- 2) Eye protection :
  - Wear primary eye protection such as splash resistant safety goggles with a secondary protection faceshield.
  - Provide an emergency eye wash station and quick drench shower in the immediate work area.
- 3) Hand protection : Wear appropriate protective gloves.
- 4) Body protection : Wear appropriate protective cloth.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

1. Appearance : Solid / Colorless or white
2. Odor : Odorless
3. Odor threshold : Not available
4. pH : 11.0 (0.02 M Solution)
5. Melting point / Freezing point : 1636° F (891°C) / Not available
6. Initial Boiling Point / Boiling Ranges : Decomposition / Not available
7. Flash point : Not available
8. Evaporation Rate : Not available
9. Flammability (solid, gas) : Not available
10. Upper/Lower Flammability or explosive limits : Not available
11. Vapor pressure : Not available
12. Solubility : soluble(water)
13. Vapor density : Not available
14. Relative density : 2.428 (25°C) (Water=1)
15. Partition coefficient of n-octanol/water : Not available
16. Autoignition Temp. : Not available (Not applicable)

|                                 |                                       |                    |
|---------------------------------|---------------------------------------|--------------------|
| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     | Page : 7/10        |
| MSDS-Prod-001(R3)               |                                       |                    |

17. Decomposition Temp. : Not available  
 18. Viscosity : : Not available  
 19. Molecular weight : 138.21

## 10. STABILITY AND REACTIVITY

### 1. Stability

- This material is stable under recommended storage at normal temperature and pressure.

### 2. Possibility of Hazardous Reaction

- Polymerization : Will not occur.

### 3. Conditions to Avoid

- Keep away from heat, flame, sparks and source of ignition.

### 4. Materials to Avoid

- Avoid contact with Oxidants(Acids, nitrates, chlorine bleach, the chlorine used in pools).
- Because the reaction with Aluminum, Fluoro, Magnesium, Silicon, Chlorine Trifluoride, Powder metal should be avoided.

### 5. Hazardous Decomposition Products :

- Carbon compounds, potassium and it' s compound.

## 11. TOXICOLOGICAL INFORMATION

### 1. Information of Exposure route :

- 1) (Respiratory tract) : May cause respiratory irritation.
- 2) (Oral) : Not Classified.
- 3) (Eye ·Skin) : Causes serious eye irritation, Causes skin irritation.

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

#### 1) Acute Toxicity :

- Oral Toxicity : LD50 > 2000mg/kg b.w.(Rat)
- Dermal Toxicity : Not available
- Inhalation Toxicity : Not available

#### 2) Skin corrosion/irritation :

- Irritation is observed.

#### 3) Serious eye damage/irritation :

- Irritation is observed.

|                                 |                                       |                    |
|---------------------------------|---------------------------------------|--------------------|
| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     | Page : 8/10        |
| MSDS-Prod-001(R3)               |                                       |                    |

- 4) Respiratory sensitization : Not available
- 5) Skin sensitization :
  - In the intracutaneous skin sensitisation test, allergic skin reactions is not observed.
- 6) Carcinogenicity : Not applicable
- 7) Germ cell mutagenicity :
  - Ames test : Negative
  - Gene mutation(mammalian cell gene mutation assay) : Negative
  - Chromosome aberration(mammalian chromosome aberration test) : Negative
- 8) Reproductive toxicity :
  - No adverse effects were observed in the reproductive sturdy using the rats for high concentration.
- 9) Specific Target organ Toxicity(single exposure) :
  - May cause respiratory irritation.
- 10) Specific Target organ Toxicity(repeated exposure) :
  - No adverse effects are observed in the repeated exposure sturdy using the rodents.
- 11) Aspiration hazard : Not available

## 12. ECOLOGICAL INFORMATION

1. Ecotoxicity :
  - Acute aquatic toxicity
    - Fish : LC50=68mg/L, 96hr, Oncorhynchus mykiss
    - Daphnia magna : EC50=430mg/L, 48hr, Daphnia magna(non-GLP)
    - Algal : Not available
2. Persistence and degradability : Not available
3. Bioaccumulation : Not available
4. Mobility in soil : Not available
5. Other adverse effects : Not available

## 13. DISPOSAL CONSIDERATIONS

1. Disposal methods :
  - The user of this product must properly characterize the waste/container generated from the use of this product in accordance with all applicable federal, state and/or local laws and regulations in order to determine the proper disposal of the waste in accordance with all applicable federal, state and/or local laws and regulations.

|                                 |                                       |                    |
|---------------------------------|---------------------------------------|--------------------|
| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     | Page : 9/10        |
| MSDS-Prod-001(R3)               |                                       |                    |

## 2. Special precautions for disposal

- The user of this product must disposal by oneself or entrust to waste disposer or person who other' s waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with local regulation.

## 14. TRANSPORT INFORMATION

1. UN Number : Not regulated for transport of dangerous goods
2. UN Proper Shipping name : Not applicable
3. Transport hazard class(es) : Not applicable
4. Packing group : Not applicable
5. Sea pollutants : Not applicable
6. Special precautions for user related to transport or transportation measures :
  - EmS FIRE SCHEDULE : Not applicable
  - EmS SPILLAGE SCHEDULE : Not applicable
7. CANADIAN TRANSPORTATION OF DANGEROUS GOODS
  - Proper Shipping Name : Not regulated under TDG
  - TDG Classification : Not Applicable
  - UN Number (PIN) : Not Applicable
  - Packing Group : Not Applicable

## 15. REGULATORY INFORMATION

1. ISHL(The industrial Safety and Health Law in Korea) : Not applicable
2. Chemical Control Act in Korea(CCA in Korea) : Not applicable
3. Act on the Registration and Evaluation, etc. of Chemical Substances (ARECS in Korea) :  
Applicable
4. Dangerous goods Safety Management Law in Korea : Not applicable
5. Waste Management Law in Korea : Not applicable
6. Other regulations
  - 1) POPs Management Law : Not applicable
  - 2) Information of EU Classification :
    - Classification : Not Classification
    - Symbol(s) and Indication(s) of Danger : Not applicable
    - Risk and Safety Phrases : Not applicable
  - 3) US REGULATIONS :
    - CERCLA section 103 (40 CFR 302.4) : Not regulated
    - SARA section 302 (40 CFR 355.30) : Not regulated
    - SARA section 304 (40 CFR 355.40) : Not regulated
    - SARA Hazard Categories, SARA section 311/312 (40 CFR 370.21)

|                                 |                                       |                    |
|---------------------------------|---------------------------------------|--------------------|
| UNID Co., Ltd.<br>Incheon Plant | MATERIAL SAFETY DATA SHEET (MSDS-GHS) | DATE : 14-JAN-2016 |
|                                 | POTASSIUM CARBONATE 99.5% GRANULE     | Page : 10/10       |
| MSDS-Prod-001(R3)               |                                       |                    |

ACUTE: YES

CHRONIC: NO

FIRE: NO

REACTIVE : NO

SUDDEN RELEASE : NO

-. SARA section 313 (40 CFR 372.65) : Not regulated

-. OSHA regulation (29 CFR 1910.119) : Not regulated

-. US STATE REGULATIONS :

CALIFORNIA PROPOSITION 65 (Safe Drinking Water and Toxic Enforcement Act)

: Not regulated

4) Chemical inventory status:

-. US inventory (TSCA): listed.

-. TSCA 12(b) Export Notifications : Not listed.

5) Others

-. Rotterdam Convention on Harmful Chemicals & Pesticides : Not applicable

-. Stockholm Convention on Persistent Organic Pollutants : Not applicable

-. Montreal Protocol on Substances That Deplete the Ozone Layer : Not applicable

6) CANADIAN REGULATIONS

-. This product has been classified in accordance with the hazard criteria of the

Controlled Products Regulations and the SDS contains all the information required by the

Controlled Products Regulations

7) WHMIS - Classifications of Substances :

-. D2B - Poisonous and Infectious Material; Materials causing other toxic effects

- Toxic Material

8) WORKPLACE HAZARD : Severe eye irritant

## 16. OTHER INFORMATION

1. Reference

1) The Korea Occupational Safety and Health Agency : KOSHA MSDS

2) Korea regulations

: Industrial Safety and Health Law, Waste Management Law, Toxic Chemical Control Act,  
ENFORCEMENT DECREE OF THE WATER QUALITY AND ECOSYSTEM CONSERVATION ACT.

2. Issue date : 2010. 03. 12

3. Revision number and Last date revised : 2015. 05. 28

4. Written Authority : UNID Co., Ltd. (<http://www.unid.co.kr> Tel. 032-830-7777)

UNID Co., Ltd.

S. Y. Yoo

Sales Manager