

UNID Co., Ltd. Incheon Plant	MATERIAL SAFETY DATA SHEET (MSDS-GHS)	Issue date : 2010.3.12
	POTASSIUM CARBONATE-LIQUID	Revised date : 2015.5.28.
MSDS-Prod-002(R3)		

1. IDENTIFICATION

1. Product Name

- 1) Product Name : POTASSIUM CARBONATE - LIQUID
- 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. Incheon Plant	115, Aam-daero 287beon-gil(Hakik-Dong), Nam-Ku, Incheon. Korea.	(TEL)+81-32-830-7777 (FAX)+81-32-832-4491	Environmental Safety Team

Home Page : www.unid.co.kr

2. HAZARD IDENTIFICATION

1. GHS Classification

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

2. GHS label elements, including precautionary statements

1) Hazard symbols



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

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	45~49%
WATER	-	7732-18-5	51~55%

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

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4. FIRST-AID MEASURES

1. Eye Contact :

- 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.

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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.

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

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sewers.

- . If large spills, advise emergency services.

3. Methods and materials for containment and cleaning up

1) Small spills

- . Absorb for use sand or other non-combustible material.
- . Collect spilled material in appropriate container for disposal.
- . Wash Residue with plenty of water.

2) Large spills

- . Stop leak if you can do it without risk.
- . dike for later disposal.
- . 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.

2. Storage Precautionary Statements

- . Able to withstand physical damage should be stored in a container.
- . Store in a cool, dry, well-ventilated area.
- . Save sealed of avoid contact with carbon dioxide and Moisture .
- . Should be kept higher than the freezing point of potassium carbonate.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

1. Exposure Limits

- . Exposure limit under ISHL(KOREA) : Not applicable
- . ACGHIH 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 fume hood. Provide mechanical ventilation of confined spaces.

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3. Personal Protective Equipment

1) 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
 - 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 face-shield.
- 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 : Liquid / Colorless or white
2. Odor : Odorless
3. Odor threshold : Not available
4. pH : 11.0 (0.02 M Solution)
5. Melting point / Freezing point : Refer to table
6. Initial Boiling Point / Boiling Ranges : Refer to table
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 : Refer to table
12. Solubility : soluble(water)

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13. Vapor density : Not available (Not applicable)
14. Relative density : Refer to table
15. Partition coefficient of n-octanol/water : Not available
16. Autoignition Temp. : Not available (Not applicable)
17. Decomposition Temp. : Not available
18. Viscosity : : Refer to table
19. Molecular weight : 138.21

PROPERTIES \ WT%	45%	47%	49%
Boiling Point (°C)	110.0	111.8	113.4
Freezing point (°C)	-16.5	-15.0	-13.4
Vapor pressure (@20°C, mm Hg)	12.3	12.0	11.1
Relative density (15.6/15.6°C)	1.471	1.496	1.522
Viscosity (CP @15.6°C)	9.6	10.4	11.3

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.

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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.

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

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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.

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

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

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- 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)
 - 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

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.
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