



## Potassium Chloride (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

|   |   |  |
|---|---|--|
| <b>1.1. Product identifier</b>  | Product form<br>Substance technical name<br>Substance chemical name<br>CAS No. 7447-40-7  | Mixture<br>Muriate of Potash<br>Potassium Chloride<br>EC No. 231-211-8 |
|   | REACH registration number: not applicable as the substance is exempt from registration according to Regulation (EC) no. №1907/2006 (REACH). |  |
| <b>1.2. Relevant identified uses of the substance or mixture and uses advised against</b> | Chemical production, fertilizer for agriculture, other applications.<br>No restrictions on application.                                     |  |
| <b>1.3. Details of the supplier of the Safety Data Sheet</b>                              |   |  |
| <b>Manufacturer</b>   | Deep South Chemical, Inc.<br>229 Millstone Rd.<br>Broussard, LA 70518<br>Tel: 337-837-9931<br>E-mail: www.deep-south-chemical.com           |  |
| <b>1.4. Emergency contact</b>   | CHEMTREC<br>1-800-424-9300  |  |

### 2. HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

Not classified as hazardous. GHS-US classification: Eye Irrit. 2B H320. Full text of H-phrases: see section 16

#### 2.2. Label elements

|                                   |   |
|-----------------------------------|---|
| <b>GHS-US labelling</b>           | : Warning   |
| Signal word (GHS-US)              | : H320 - Causes eye irritation  |
| Hazard statements (GHS-US)        | : P264 - Wash hands thoroughly after handling   |
| Precautionary statements (GHS-US) | : P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing if eye irritation persists: Get medical advice/attention |



## Potassium Chloride (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

### 2.3. Other hazards

No Pictogram according to the established criteria No additional information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Chemical name (IUPAC)  
Chemical formula

Potassium Chloride  
KCl

Composition:

Mass fraction, %

CAS No.

GHS-US  
Classification.

Potassium chloride

95-98

7447-40-7

Eye Irrit. 2B,  
H320

Sodium chloride

1.1-3.0

7647-14-15

Skin Irrit. 2,  
H315

May contain up to 0.25% base lubrication (de-dust) oil and/or 0.03% neutralized primary aliphatic (anti-cake) amine.

### 4. FIRST AID MEASURES

#### 4.1. Description of first aid measures

|  |  |
|--|--|
| First-aid measures general:            | If medical advice is needed, have product container or label at hand.  |
| First-aid measures after inhalation:   | Move to fresh air, keep person warm and at rest in a comfortable breathing position. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.        |
| First-aid measures after skin contact: | Wash skin thoroughly with mild soap and water. Obtain medical attention if irritation develops or persists.  |
| First-aid measures after eye contact:  | Immediately rinse with water for a prolonged period (15 minutes) while holding the eyelids wide open including upper and lower lids. Obtain medical attention if pain and irritation develops or persists. |
| First-aid measures after               | Do not induce vomiting. Administer water if patient is conscious.  |

## Potassium Chloride (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

|  |   |
|--|---|
| ingestion:   | Ingesting potash will usually cause purging of the stomach by vomiting. Seek medical attention if a large amount is swallowed. Get medical advice and attention if you feel unwell. |
| <b>4.2. Most important symptoms and effects, both acute and delayed</b>                |   |
| Symptoms/injuries:   | Irritation to eyes, skin and respiratory tract.   |
| Symptoms/injuries after inhalation:  | Overexposure may be irritating to the respiratory system.   |
| Symptoms/injuries after skin contact:  | May cause skin irritation.  |
| Symptoms/injuries after eye contact:   | May cause eye irritation.   |
| Symptoms/injuries after ingestion:   | If a large quantity has been ingested : Abdominal pain; Diarrhea; Nausea; Vomiting; Tingling in hands and feet; Weak pulse; Circulatory disturbances                                |
| Chronic symptoms:  | Prolonged inhalation of dust may cause respiratory irritation.  |
| <b>4.3. Indication of any immediate medical attention and special treatment needed</b> | If necessary ask for medical care.<br>No contra-indications.<br>First-aid means (first-aid set): activated charcoal, saline purge.  |

### 5. FIREFIGHTING MEASURES

#### 5.1. Extinguishing media

|                                 |  |
|---------------------------------|--|
| Suitable extinguishing media:   | Not flammable. Use extinguishing media appropriate for surrounding fire. : None known. |
| Unsuitable extinguishing media: | Product is incombustible. A non-fire and explosion hazard.                             |

#### 5.2. Special hazards arising from the substance or mixture

|             |   |
|-------------|---|
| Fire hazard | Under conditions of fire this material may produce: Potassium |
|-------------|---|

## Potassium Chloride (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

|                                     |   |
|-------------------------------------|---|
|                                     | oxides; Hydrogen chloride; Chlorine gas   |
| Explosion hazard                    | Product is not explosive.   |
| Reactivity:                         | Stable at ambient temperature and under normal conditions of use.   |
| <b>5.3. Advice for firefighters</b> |   |
| Firefighting instructions:          | Keep upwind. Under conditions of fire this material may produce: Potassium oxides; Hydrogen chloride; Chlorine gas. |
| Protection during firefighting:     | Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).                         |
| Other information:                  | Do not allow run-off from firefighting to enter drains or water courses.  |

### 6. ACCIDENTAL RELEASE MEASURES

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

General measures: Do not breathe fumes from fires or vapors from decomposition.

##### 6.1.1. For non-emergency personnel

Protective equipment: Wear suitable protective clothing, gloves and eye/face protection including tight fitting goggles in areas of high dust concentration. Wear NIOSH approved respiratory protective equipment when workplace conditions warrant use of respirator.

Emergency procedures: Collect as any solid. Ventilate area.

##### 6.1.2. For emergency responders

Protective equipment: Wear suitable protective clothing, gloves and eye/face protection including tight fitting goggles in areas of high dust concentration. Wear NIOSH approved respiratory protective equipment when conditions warrant use of respirator.

Emergency procedures: If possible, stop flow of product. Contain and collect as any solid. Ventilate area.

#### 6.2. Environmental

If spill could potentially enter any waterway, including intermittent



## Potassium Chloride (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

|  |  |
|--|--|
| <b>precautions</b>   | dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300.  |
| <b>6.3. Methods and material for containment and cleaning up</b> |  |
| For containment:   | Contain and collect as any solid. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected.  |
| Methods for cleaning up:   | Recover the product by vacuuming, shoveling or sweeping. Avoid generation of dust during clean-up of spills. If uncontaminated, recover and reuse as product. If on soil, remove and collect the top 5 cm of soil. |
| <b>6.4. References to other sections</b>                         | No additional information available.   |

### 7. HANDLING AND STORAGE

#### 7.1. Precautions for safe handling

|                                    |  |
|------------------------------------|--|
| Additional hazards when processed: | When heated, material emits irritating fumes.  |
| Precautions for safe handling:     | Handle in accordance with good industrial hygiene and safety procedures. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |
| Hygiene measures:                  | Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.  |

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

|                             |   |
|-----------------------------|---|
| Storage conditions:         | Store tightly closed in a dry, cool and well-ventilated place. Protect from moisture. |
| Special rules on packaging: | Avoid contact with aluminum or carbon steel to minimize corrosion.                    |

**7.3. Specific end use (s)** Fertilizer.

## Potassium Chloride (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

### 8. EPOSURE CONTROLS/PERSONAL PROTECTION

|                                   |   |
|-----------------------------------|---|
| <b>8.1. Control parameters</b>    | Highly soluble – No ACGIH TWA, Particulate Not Otherwise Specified (PNOS) not appropriate for highly soluble material.  |
| <b>8.2. Exposure controls</b>     | Aspiration in places of the product reloading.  |
| Appropriate engineering controls: | Ensure adequate ventilation, especially in confined areas.  |
| Personal protective equipment:    | Gloves. Safety glasses. Protective clothing.  |
|                                   |   |
| Hand protection:                  | Impermeable protective gloves.  |
| Eye protection:                   | Protective goggles.   |
| Skin and body protection:         | Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wear suitable protective clothing. Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice. Wash clothing frequently. |
| Respiratory protection:           | Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.   |
| Environmental exposure controls:  | Ensure adequate ventilation, especially in confined areas.  |

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. Information on basic physical and chemical properties

**Potassium Chloride (KCL-Muriate of Potash)****Version: 1****Compilation date: 02.05.2015**

|   |   |
|---|---|
| Physical State:                               | Solid   |
| Appearance:                                   | Crystalline powder, fine grains or granular solid.  |
| Color:  | White with grayish shades, pink to red-brown color. |
| Odor:   | Slightly oily.                                      |
| Odor threshold:                               | NA  |
| pH:   | 5.5-8.8 (approximately).                            |
| Relative evaporation rate<br>(butylacetate=1) | NA  |
| Melting point:                                | 768-772 C (1418-1423 F)                             |
| Freezing point:                               | NA  |
| Boiling point:                                | 1406-1413 C (2563-2587 F)                           |
| Flash point:                                  | NA  |
| Self-ignition point:                          | Not flammable                                       |
| Decomposition temperature:                    | NA  |
| Flammability (solid, gas):                    | Not flammable                                       |
| Vapour density:                               | 80 Pa at 20 C                                       |
| Relative vapour density at<br>20C:            | NA  |
| Relative density:                             | NA  |
| Density:                                      | 1.98 g/cm <sup>3</sup>                              |
| Solubility:                                   | 330-347 g/l (at 20 C)                               |
| Log Pow:                                      | NA  |
| Log Kow:                                      | NA  |
| Viscosity, kinematic:                         | NA  |

## Potassium Chloride (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

|                               |               |
|-------------------------------|---------------|
| Viscosity, dynamic:           | NA            |
| Explosive properties:         | None known    |
| Oxidizing properties:         | None known    |
| Explosive limits:             | Not explosive |
| <b>9.2. Other information</b> |               |
| VOC content:                  | < 0.5%        |

### 10. STABILITY AND REACTIVITY

|   |  |
|---|--|
| <b>10.1. Reactivity</b>                         | Stable at ambient temperature and under normal conditions of use. Reacts with acids and alkalis.                     |
| <b>10.2. Chemical stability</b>                 | Stable at standard temperature and pressure.   |
| <b>10.3. Possibility of hazardous reactions</b> | Hazardous polymerization will not occur.   |
| <b>10.4. Conditions to avoid</b>                | The material is corrosive when wet. Protect from moisture.   |
| <b>10.5. Incompatible materials</b>             | Contact with acids liberates toxic gas (chlorine). Contact with hot nitric acid may produce toxic nitrosyl chloride. |
| <b>10.6. Hazardous decomposition products</b>   | Contact with strong acids may produce hydrogen chlorine gas.   |

### 11. TOXICOLOGICAL INFORMATION

|   |   |                  |                |
|---|---|------------------|----------------|
| <b>11.1. Information on toxicological effects</b> | Acute toxicity (LD <sub>50</sub> , rats, mice)  |                  |                |
| <b>Additional information:</b>                    | Potassium chloride is listed by the FDA as "Generally Recognized as Safe" (GRAS) and may be used as a food additive according to prescribed conditions. |                  |                |
|   | <b>DL<sub>50</sub> mg/kg</b>  | <b>Route</b>     | <b>Species</b> |
|   | 2,430-2,600   | intra-gastric    | rats           |
|   | 1,500   | intra-gastric    | mice           |
|   | 660-770   | intra-peritoneal | rats           |
|   | 620-1,181   | intra-gastric    | mice           |
|   | 39-142  | intra-venous     | rats           |



## Potassium Chloride

### (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

|   |  |             |      |
|---|--|-------------|------|
|   | 117  | intravenous | mice |
| Serious eye damage/irritation:                      | Causes eye irritation<br>pH: 7 (approximately) |             |      |
| Respiratory or skin sensitization:                  | Not classified                                 |             |      |
| Germ cell mutagenicity:                             | Not classified                                 |             |      |
| Carcinogenicity:                                    | Not classified                                 |             |      |
| Reproductive toxicity:                              | Not classified                                 |             |      |
| Specific target organ toxicity (single exposure):   | Not classified                                 |             |      |
| Specific target organ toxicity (repeated exposure): | Not classified                                 |             |      |
| Aspiration hazard:                                  | Not classified                                 |             |      |

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Acute toxicity to fish

|                  |        |      | Species             | Time of exposure (hours) |
|------------------|--------|------|---------------------|--------------------------|
| CL <sub>50</sub> | 2,300  | mg/l | Leuciscus idus      | 48                       |
| CL <sub>50</sub> | 373    | mg/l | Phoxinus phoxinus   | 12-29                    |
| CL <sub>50</sub> | 10,000 | mg/l | Gambusia affinis    | 24                       |
| CL <sub>50</sub> | 4,200  | mg/l | Gambusia affinis    | 48                       |
| CL <sub>50</sub> | 74.6   | mg/l | Diplodus cervinus   | 4.5-15.0                 |
| CL <sub>50</sub> | 2,010  | mg/l | Lepomis macrochirus | 96                       |
| CL <sub>50</sub> | 5,500  | mg/l | Lepomis macrochirus | 24                       |
| CL <sub>50</sub> | 12,500 | mg/l | Cyprinus carpio     | 5                        |

#### Acute toxicity to Daphnia Magna

EC<sub>50</sub> = 825 mg/l, 48 hours

#### Toxicity to algae

|                  |       |      |                         |     |
|------------------|-------|------|-------------------------|-----|
| EC <sub>50</sub> | 2,500 | mg/l | Scenedesmus subspicatus | 72  |
| CL <sub>50</sub> | 1,337 | mg/l | Nitschiera linearis     | 120 |

#### Toxicity to invertebrates

|                  |       |      |                           |    |
|------------------|-------|------|---------------------------|----|
| CL <sub>50</sub> | 740   | mg/l | Austropotamobius pallipes | 96 |
| CL <sub>50</sub> | 1,214 | mg/l | Orconectes limosus        | 96 |

## Potassium Chloride (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

|  |  |         |      |                                    |         |
|--|--|---------|------|------------------------------------|---------|
|  | EC <sub>50</sub>   | 940     | mg/l | Physella heterostropka (mollusca), | 96      |
|  | CL <sub>50</sub>   | 398-531 | mg/l | Austropotamobius pallipes          | 30 days |
|  | CL <sub>50</sub>   | 626-854 | mg/l | Orconectes limoris                 | 30 days |
| <b>12.2. Persistence and degradability</b> | Extremely stable under abiotic conditions (t <sub>1/2</sub> ) > 30 days.   |         |      |                                    |         |
| <b>12.3. Bioaccumulative potential</b>     | Not tested.  |         |      |                                    |         |
| <b>12.4. Mobility in soil</b>              | MAC in soil (based on K <sub>2</sub> O) - 360 mg/kg (under regulations of the Russian Federation).   |         |      |                                    |         |
| <b>12.5. Environmental Fate:</b>           | Stability in Water: Ions can persist, dissociates in water<br>Stability in Soil: Binds to clay particles<br>Transport and Distribution: 1.51 x 10 <sup>-8</sup> % to air; 45.2% to water; 54.7% to soil; 0.0755% to sediment |         |      |                                    |         |
| <b>12.6. Toxicity:</b>                     | Not toxic to aquatic organisms defined by USEPA  |         |      |                                    |         |
| <b>12.7. Other adverse effects</b>         | The substance does not transform in the environment.   |         |      |                                    |         |

### 13. DISPOSAL CONSIDERATIONS

#### 13.1. Waste treatment methods

|                                  |  |
|----------------------------------|--|
| Sewage disposal recommendations: | This material may be hazardous to the aquatic environment. Keep out of sewers and waterways.               |
| Waste disposal recommendations:  | Place in an appropriate container and dispose of the contaminated material at a licensed site.             |
| Additional information:          | Dispose of waste material in accordance with all local, regional, national, and international regulations. |

### 14. TRANSPORT INFORMATION

|                                      |  |
|--------------------------------------|--|
|                                      | In accordance with DOT / TDG / ADR / RID / ADNR / IMDG / ICAO / IATA |
| <b>14.1. UN number</b>               | No dangerous good in sense of transport regulations.                 |
| <b>14.2. UN proper shipping name</b> | Muriate of Potash (MOP), various grades                              |



## Potassium Chloride (KCL-Muriate of Potash)

Version: 1

Compilation date: 02.05.2015

|  |  |
|--|--|
| <b>14.3. Transportation hazard class(es)</b> | Not applicable. Non-hazardous cargo.               |
| <b>14.4. Packing group</b>                   | Not applicable. Not classified as hazardous cargo. |
| <b>14.5. Environmental hazards</b>           | Non-hazardous substance.                           |
| <b>14.6. Special precautions for user</b>    | Not required.                                      |

### 15. REGULATORY INFORMATION

|                                     |  |
|-------------------------------------|--|
| <b>15.1. US Federal regulations</b> | <p>Potash: SARA Section 311/312 Hazard Classes.</p> <p>Potassium chloride (7447-40-7): Listed on the United States TSCA (Toxic Substances Control Act) inventory.</p> <p>Sodium chloride (7647-14-5): Listed on the United States TSCA (Toxic Substances Control Act) inventory.</p>   |
| <b>15.2. US State regulations</b>   | <p>The following states have an OSH program approved by OSHA. If you are located in any of these states you may be under state jurisdiction rather than federal jurisdiction and your state may have more stringent requirements than OSHA. You should consult your state regulations to ensure compliance.</p> <p>AL, AZ, CA, CT*, HI, IL*, IN, IA, KY, MD, MI, MN, NV, NM, NJ, NY, NC, OR, PR, SC, TN, UT, VT, VI, VA, WA, WY.</p> <p>* - The state plans in these states apply only to public sector employers. In these states private sector employers are subject to USOL – OSHA jurisdiction. All other state plans apply to both public and private sector employers.</p> <p>Sodium chloride (7647-14-5): U.S. - Texas - Effects Screening Levels - Long Term U.S. - Texas - Effects Screening Levels - Short Term</p> |

### 16. OTHER INFORMATION

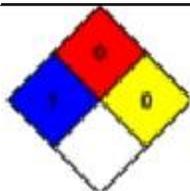
**NFPA health hazard:** 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

**NFPA fire hazard NFPA reactivity:** 0 - Materials that will not burn.  
0 - Normally stable, even under fire exposure conditions,

**Potassium Chloride (KCL-Muriate of Potash)**

Version: 1

Compilation date: 02.05.2015



and are not reactive with water.

**Full text of H- phrases:**

- Eye Irrit. 2:** Serious eye damage/eye irritation Category 2
- Skin Irrit. 2:** Skin corrosion/irritation Category 2
- STOT SE 3:** Specific target organ toxicity (single exposure) Category 3
- H315:** Causes skin irritation
- H319:** Causes serious eye irritation
- H335:** May cause respiratory irritation

**Disclaimer**

End-user bears all responsibility for safe application of the material in accordance with requirements of safety, health and environment regulations, as well as national and international legislation.

The information provided in this Safety Data Sheet is designed for safe handling only and not to be considered as a warranty or quality specification.

The information is correct to the best of Deep South Chemical, Inc. knowledge at the date of the document compilation. The information may not be valid for the material used in any other specific applications unless specified in this Safety Data Sheet.