

Creation Date : 2022/10/3

Last Revision Date : 2023/7/7

## SAFETY DATA SHEET (SDS)

### 1. IDENTIFICATION

|   |  |
|---|--|
| <b>Product name</b>                             | ALA GARDEN Farm                                |
| <b>Company</b>                                  | Seiwa Fertilizer Ind. Co.,Ltd.                 |
| <b>Address</b>                                  | 3-4, 4 Chome, Bingo Machi, Chuo-ku, Osaka City |
| <b>Telephone</b>                                | +81-6-6231-3771                                |
| <b>FAX</b>                                      | +81-6-6231-1988                                |
| <b>Emergency telephone number</b>               | +81-6-6231-3771                                |
| <b>Office hour</b>                              | Mon-Fri 9:00-17:00                             |
| <b>Recommended uses and restrictions on use</b> | Fertilizer                                     |

### 2. HAZARDS IDENTIFICATION

#### GHS classification of the substance or mixture

|                              |                |
|------------------------------|----------------|
| <b>Physical hazards</b>      | Not classified |
| <b>Health hazards</b>        | Not classified |
| <b>Environmental hazards</b> | Not classified |

#### Label elements

|  |   |
|--|---|
| <b>Pictograms or hazard symbols</b>          | None  |
| <b>Signal word</b>                           | None  |
| <b>Hazard statements</b>                     | None  |
| <b>Precautionary statements (Prevention)</b> | None  |
| <b>(Response)</b>                            | None  |
| <b>(Storage)</b>                             | None  |
| <b>(Disposal)</b>                            | Observe all federal, state and local regulations when disposing of the substance and container. |
| <b>Others</b>                                | No information available  |
| <b>Other hazards</b>                         | Irritation to eye, respiratory system, and skin   |

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

|                          |                     |
|--------------------------|---------------------|
| <b>Substance/mixture</b> | Mixture             |
| <b>Chemical Name</b>     | Compound fertilizer |

| Chemical Name          | ENCS No.      | CAS RN     | Percent |
|------------------------|---------------|------------|---------|
| Ammonium Sulfate       | 1-400         | 7783-20-2  | 48-51%  |
| Single Superphosphate  | not-disclosed | 8011-76-5  | 10-30%  |
| Triple Super Phosphate | not-disclosed | 65996-95-4 | 15-25%  |
| Potassium Chloride     | 1-228         | 7447-40-7  | 17-18%  |
| Citric Acid, Anhydrous | 2-1318        | 77-92-9    | 10%Max  |

|                                 |       |            |        |
|---------------------------------|-------|------------|--------|
| Diatomaceous Earth (Uncalcioed) | 1-548 | 69012-64-2 | 1% Max |
| Others                          |       |            | 1% Max |

| Components  | ENCS No.      | CAS RN        | Guaranteed component (%) |
|---|---------------|---------------|--------------------------|
| Total nitrogen  | not-disclosed | not-disclosed | 10.0%                    |
| Ammoniac nitrogen as N                                    | not-disclosed | not-disclosed | 10.0%                    |
| Soluble phosphorus as P <sub>2</sub> O <sub>5</sub>       | not-disclosed | not-disclosed | 10.0%                    |
| Water solbule phosphorus as P <sub>2</sub> O <sub>5</sub> | not-disclosed | not-disclosed | 8.0%                     |
| Water soluble potassium as K <sub>2</sub> O               | not-disclosed | not-disclosed | 10.0%                    |

#### 4. FIRST-AID MEASURES

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice if needed.   |
| <b>Skin contact</b> | Wash off immediately with soap and plenty of water. If skin irritation or rash occurs, get medical advice/attention.   |
| <b>Eye contact</b>  | Rinse cautiously with water for more than 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/ attention. |
| <b>Ingestion</b>    | Rinse mouth with clean water and get medical attention. Do not force to vomit. If vomiting occurs, the head should be lowered to prevent vomiting from entering the lungs.           |

#### 5. FIRE-FIGHTING MEASURES

|   |   |
|---|---|
| <b>Suitable extinguishing media</b>                       | Water spray, carbon dioxide gas, dry chemical, foam   |
| <b>Unsuitable extinguishing media</b>                     | Straight stream water   |
| <b>Specific hazards arising from the chemical product</b> | The product is hard to burn. Thermal decomposition can lead to release of ammonia gas, sulfur oxide.  |
| <b>Special extinguishing method</b>                       | Fire-extinguishing work is done from the windward. Entry to non-involved personnel should be controlled around the area. Remove movable containers if safe to do so. Cool the container fully after extinguishing the fire. |
| <b>Special protective actions for fire-fighters</b>       | Fire-extinguishing work is done from the windward and avoid inhaling harmful gases. Wear respiratory ptection according to the situation.   |

#### 6. ACCIDENTAL RELEASE MEASURES

|  |  |
|--|--|
| <b>Personal precautions, protective equipment and emergency procedures</b> | See Section 8. Wear appropriate personal protective equipment to avoid adhering it on skin or in eyes, or inhaling dust. |
|--|--|

|  |   |
|--|---|
| <b>Environmental precautions</b>   | Do not let product enter drains and water course.<br>Do not discharge to the environment due to containing ingredients that cause eutrophication of the water system. |
| <b>Methods and materials for contaminant and methods and materials for cleaning up</b> | Sweep up or vacuum scattered particles in order to prevent the dispersion of dust, and collect them in an empty container. Keep it away from drains.                  |
| <b>Secondary disaster prevention measures</b>  | No information available  |

**7. HANDLING AND STORAGE**

|                 |                                    |   |
|-----------------|------------------------------------|---|
| <b>Handling</b> | <b>Technical measures</b>          | See Section 8. Wear appropriate personal protective equipment. Use in a well-ventilated area. Use a ventilation, local exhaust according to the situation.  |
|                 | <b>Safety handling precautions</b> | Keep out of contact with alkaline substances, oxidizing agents, and high temperature substances. Wash hands and face after handling. Prevent dispersion of dust. Be careful not to inhale or ingest dust. Take off contaminated clothes. Wash them before reusing. No smoking, or eating and drinking when handling. Use effective amount of the product as fertilizer, which is undiluted or diluted with an appropriate amount of water, according to the crop. |
| <b>Storage</b>  | <b>Storage conditions</b>          | Store away from sunlight, in a cool, dark, and dry place. Use a sealable container without damage and leakage. Keep container tightly closed. Leaving it open may cause consolidation due to moisture absorption. Moisture absorption may accelerate the decomposition and invalidation of components. Lighting and ventilation equipment necessary for storing or handling dangerous and harmful substances will be installed in the storage location.           |
|                 | <b>Incompatible substances</b>     | Oxidizing agents, reducing agents, alkaline substances, high temperature substances   |
|                 | <b>Safe packaging material</b>     | Sealable container without damage and leakage. Polyethylene, polypropylene.   |

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

|                             |  |   |
|-----------------------------|--|---|
| <b>Control parameters</b>   |  | Not set up  |
| <b>Exposure limits</b>      | <b>Japan Society for Occupational Health (JSOH) (2022)</b> | Dust Type 3 Other inorganic and organic acid<br>Inhalable dust : 2mg/m <sup>3</sup> , Total dust : 8mg/m <sup>3</sup>   |
| <b>Engineering controls</b> |  | Install a closed system or local exhaust in the workplace where dust is generated. Implement regulatory management and equipment management to reduce exposure. |

**Personal protective equipment**

|                                       |  |
|---------------------------------------|--|
| <b>Respiratory protection</b>         | Dust respirator  |
| <b>Hand protection</b>                | Rubber or PVC protective gloves  |
| <b>Eye protection</b>                 | Protective glasses - with side plates, or goggles  |
| <b>Skin and body protection</b>       | Protective long sleeve clothing, protective apron  |
| <b>General hygiene considerations</b> | Wash hands and face after handling.<br>No smoking, or eating and drinking when handling.<br>Take off contaminated clothes. Wash them before reusing. |

**9. PHYSICAL AND CHEMICAL PROPERTIES**

|   |                       |                           |
|---|-----------------------|---------------------------|
| <b>Appearance</b>                       | <b>Physical state</b> | Solid                     |
|   | <b>Form</b>           | Granular                  |
|   | <b>Color</b>          | Grayish white             |
| <b>Odour</b>                            |                       | Slightly sour odor        |
| <b>pH</b>                               |                       | 3-3.5 (1% water solution) |
| <b>Ignition point</b>                   |                       | None                      |
| <b>Flammability</b>                     |                       | Nonflammable              |
| <b>Flammability or explosive limits</b> |                       | Min: None      Max: None  |
| <b>Bulk specific gravity</b>            |                       | 0.95 - 1.10               |
| <b>Solubilities</b>                     | <b>Water</b>          | No data available         |
|   | <b>Other solvents</b> | No data available         |
| <b>Other physicochemical properties</b> |                       | No data available         |

**10. STABILITY AND REACTIVITY**

|   |  |
|---|--|
| <b>Reactivity, chemical stability</b>     | Stable under normal temperatures and pressures.  |
| <b>Possibility of hazardous reactions</b> | Not reacted under normal handling conditions.  |
| <b>Conditions to avoid</b>                | Avoid contact with, mixing with, or storage close to water and incompatible materials.<br>Avoid direct sunlight, and store in cool, dark, and dry place. |
| <b>Incompatible materials</b>             | Oxidizing agents, reducing agents, alkaline substances, high temperature substances.   |
| <b>Hazardous decomposition products</b>   | Thermal decomposition can lead to release of ammonia gas, sulfur oxide.  |

**11. TOXICOLOGICAL INFORMATION**

|                                      |  |
|--------------------------------------|--|
| <b>Product hazard information</b>    | No data available  |
| <b>Components hazard information</b> |  |
| <b>Ammonium Sulfate</b>              |  |
| <b>Acute Toxicity</b>                |  |
| <b>Oral</b>                          | Human TDLo = 1,500 mg/kg<br>Rat LD50 = 2,000 - 4,250 mg/kg<br>Mouse LD50 = 640 mg/kg<br>Livestock LDLo = 3,500 mg/kg |

|  |   |
|--|---|
| <b>Intraperitoneal</b>                 | Mouse LD50 = 610 mg/kg  |
| <b>Skin</b>                            | Mouse / Rat LD50 > 2,000 mg/kg  |
| <b>Inhalation</b>                      | Rat LD50 (8h) > 1,000 mg/m <sup>3</sup>   |
| <b>Chronic toxicity</b>                | Rat NOAEL = 886 mg/kg/day (mixed feeding)   |
| <b>Skin corrosion / irritation</b>     | Rabbit No irritation  |
| <b>Serious eye damage/irritation</b>   | Rabbit No irritation  |
| <b>Skin sensitization</b>              | No data available   |
| <b>Respiratory sensitization</b>       | No data available   |
| <b>Germ cell mutagenicity</b>          | Ames test ; Negative<br>Chromosome aberration test ; Negative   |
| <b>Reproductive toxicity</b>           | No data available   |
| <b>Carcinogenicity</b>                 | No data available   |
| <b>STOT-single exposure</b>            | Oral exposure caused staggering, blunt hump, and effort breathing in rats, and mydriasis, irregular breathing, and convulsions that spread from local areas (face and extremities) to the whole body in rabbits, died of cardiac arrest as a result. However, no histopathological changes were observed in each organ of rats and rabbits. On the other hand, EEG examination revealed rabbits to be a classic case of hyperammonemia. Based on these results, the post-exposure effects were speculated to be ammonia neurotoxicity. Since it exceeds the upper limit of the guidance value range (2,000 mg/kg) in rats and is found at 1,500 mg/kg in rabbits, it may cause damage to the nervous system.<br>In humans, inhalation exposure to 0.1 – 0.5 mg ammonium sulfate/m <sup>3</sup> aerosol for two to four hours produced no pulmonary effects. At 1 mg ammonium sulfate/m <sup>3</sup> very slight pulmonary effects in the form of a decrease in expiratory flow, in pulmonary flow resistance and dynamic lung compliance were found in healthy volunteers after acute exposure. |
| <b>STOT-repeated exposure</b>          | Rat inhalation toxicity test (0.3 mg/L, 8h/day, 14days) ;<br>No effect<br>Rat 13-week repeated oral dose study (1,792 mg/kg/day) ;<br>No effect   |
| <b>Single Superphosphate</b>           |   |
| <b>Acute Toxicity</b>                  |   |
| <b>Oral</b>                            | No reliable information   |
| <b>Skin</b>                            | No data available   |
| <b>Inhalation</b>                      | No data available   |
| <b>Chronic toxicity</b>                | No data available   |
| <b>Skin corrosion / irritation</b>     | Although there is no data, there is a description that it is considered to cause mild skin irritation.  |
| <b>Serious eye damage / irritation</b> | There is a statement that it is considered to be irritating if it gets in the eyes.   |
| <b>Skin sensitization</b>              | No data available   |

|   |  |
|---|--|
| <b>Respiratory sensitization</b>            | No data available  |
| <b>Germ cell mutagenicity</b>               | No data available  |
| <b>Reproductive toxicity</b>                | No data available  |
| <b>Carcinogenicity</b>                      | No data available  |
| <b>STOT-single exposure</b>                 | No data available  |
| <b>STOT-repeated exposure</b>               | No data available  |
| <b>Other relevant information</b>           | Excess inhalation of dust may cause irritation of the nose, throat and respiratory tract. Prolonged and repeated contact may cause mild irritation to the skin. In contact with the eyes, dust may cause irritation, redness and abrasion. Ingestion of large amounts of dust may cause gastrointestinal upset and abdominal pain. (OECD SIDS) |
| <br>  |  |
| <b>Triple Super Phosphate</b>               |  |
| <b>Acute Toxicity</b>                       |  |
| <b>Oral</b>                                 | No data available  |
| <b>Skin</b>                                 | No data available  |
| <b>Inhalation</b>                           | No data available  |
| <b>Repeated dose toxicity</b>               | Rat, Gavage, Doses ; 0, 250, 750, and 1,500 mg/kg/day<br>The stomach submucosal effect seen at all doses may have been a result of irritation due to the low pH (2-3) of the test solution that was gavaged.<br>General toxicity : LOAEL = 250 mg/kg/day<br>Reproduction/developmental toxicity : LOAEL = 1,500 mg/kg/day                      |
| <br>  |  |
| <b>Skin corrosion / irritation</b>          | Mild irritation  |
| <b>Serious eye damage / irritaion</b>       | Mild irritation  |
| <b>Skin sensitization</b>                   | No data available  |
| <b>Respiratory sensitization</b>            | No data available  |
| <b>Mammalian chromosome aberration test</b> | Chinese hamster ovary cells, Negative  |
| <b>Germ cell mutagenicity</b>               | No data available  |
| <b>Reproductive toxicity</b>                | Rat, Gavage, 250-1,500 mg/kg/day, Exposure period up to 28 days for males and up to 53 days for females, No obvious signs of clinical toxicity, Mating performance and fertility were not affected   |
| <br>  |  |
| <b>Carcinogenicity</b>                      | No data available  |
| <b>STOT-single exposure</b>                 | No data available  |
| <b>STOT-repeated exposure</b>               | No data available  |
| <br>  |  |
| <b>Potassium Chloride</b>                   |  |
| <b>Acute Toxicity</b>                       |  |
| <b>Oral</b>                                 | Rat : LD50 = 3,020 mg/kg<br>Rat : LD50 = 2,600 mg/kg<br>Rat : LDL0 = 2,430 mg/kg<br>Guinea pig : LDL0 = 2,500 mg/kg  |

|                                       |  |
|---------------------------------------|--|
| <b>Intraperitoneal administration</b> | Rat : LD50 = 660 mg/kg<br>Rat : LDL0 = 825 mg/kg<br>Guinea pig : LDL0 = 900 mg/kg  |
| <b>Intravenous injection</b>          | Rat : LD50 = 142 mg/kg<br>Rat : LDL0 = 117 mg/kg<br>Guinea pig : LDL0 = 77 mg/kg   |
| <b>Intra-arterial injection</b>       | Guinea pig : LDL0 = 130 mg/kg  |
| <b>Intracardiac administration</b>    | Guinea pig : LDL0 = 40 mg/kg   |
| <b>Inhalation</b>                     | No data available  |
| <b>Repeated dose toxicity</b>         |  |
| <b>Oral</b>                           | Human : NOAEL > 80 mmol (approx. 85mg)<br>KCl/kg/day<br>Rat : NOAEL > 1,820 mg/kg/day  |
| <b>Inhalation</b>                     | No data available  |
| <b>Hazardous to human</b>             |  |
| <b>Inhalation</b>                     | Cough, Sore throat (ICSC)  |
| <b>Skin</b>                           | No description of symptoms (ICSC)  |
| <b>Eyes</b>                           | Redness, Pain (ICSC)   |
| <b>Oral intake</b>                    | Abdominal pain, Diarrhea, Rausea, Vomiting, Weakness, cramps (ICSC)  |
| <b>Skin irritation</b>                | A threshold concentration for skin irritancy of 60 % was seen when potassium chloride in aqueous solution was in contact with skin of human. The threshold concentration when applied to broken skin was 5 %.  |
| <b>Mutagenicity</b>                   | No gene mutations were reported in bacterial tests, with and without metabolic activation. However, high concentrations of KCl showed positive results in a range of genotoxic screening assays using mammalian cells in culture. The action of KCl in culture seems to be an indirect effect associated with an increased osmotic pressure and cocentration. Therefore KCl, do not have any direct revance in the intact body were such cocentrations can not occur. Further studies using in vivo systems are not considered necessary under SIDS. |
| <b>Germ cell mutagenicity</b>         | A developmental study revealed no foetotoxic or tertogenic effect of KCl in doses up to 235 mg/kg/day (mice) and 310 mg/kg/day (rats).   |
| <b>Reproductive toxicity</b>          | No data available  |
| <b>Carcinogenicity</b>                | No evidence of treatment-related carcinogenicity was observed in rats administered up to 1820 mg KCl/kg body weight/day through the food in a 2 year study.  |
| <b>STOT-single exposure</b>           | No data available  |
| <b>STOT-repeated exposure</b>         | No data available  |
| <b>Citric Acid, Anhydrous</b>         |  |
| <b>Acute Toxicity</b>                 |  |
| <b>Oral</b>                           | Mouse : LD50 = 5,040 mg/kg   |

|  |   |
|--|---|
|  | Rat : LD50 = 3,000-12,000 mg/kg   |
|  | Rabbit : Lethal dose = 7,000 mg/kg (probably lowest lethal dose)  |
| <b>Intraperitoneal</b>                                   | Mouse : LD50 = 903 mg/kg  |
|  | Rat : LD50 = 290 mg/kg  |
| <b>Intravenous</b>                                       | Mouse : LD50 = 42 mg/kg   |
|  | Rabbit : LD50 = 330 mg/kg   |
| <b>Subcutaneous</b>                                      | Mouse : LD50 = 2,700 mg/kg  |
|  | Rat : LD50 = 5,500 mg/kg  |
| <b>Inhalation</b>  | Human : Cough. Shortness of breath. Sore throat.  |
| <b>Chronic toxicity</b>                                  | No data available   |
| <b>Skin corrosion / irritation</b>                       | Rabbit : 500 mg/24h (mild)  |
|  | Human : Redness.  |
| <b>Serious eye damage / irritation</b>                   | Rabbit : 0.75 mg/24h (severe)   |
|  | Human : Redness. Pain.  |
| <b>Respiratory sensitization</b>                         | No data available   |
| <b>Skin sensitization</b>                                | No data available   |
| <b>Mutagenicity / Genotoxicity</b>                       | No data available   |
| <b>Carcinogenicity</b>                                   | No data available   |
| <b>Reproductive and Developmental toxicity</b>           | No data available   |
| <b>STOT-single exposure</b>                              | The substance is irritating to the eyes, skin, and respiratory tract.   |
| <b>STOT-repeated exposure</b>                            | May cause tooth acid erosion.   |
| <b>Amorphous Silica (Diatomaceous Earth, Uncalcined)</b> |   |
| <b>Acute Toxicity</b>                                    |   |
| <b>Oral</b>  | No data available   |
| <b>Inhalation</b>  | No data available   |
| <b>Skin</b>  | No data available   |
| <b>Skin corrosion / irritation</b>                       | Prolonged contact may cause allergic dermatitis.  |
| <b>Serious eye damage / irritation</b>                   | Cause pain  |
| <b>Respiratory sensitization</b>                         | No data available   |
| <b>Skin sensitization</b>                                | No data available   |
| <b>Germ cell mutagenicity</b>                            | No data available   |
| <b>Reproductive toxicity</b>                             | No data available   |
| <b>STOT-single exposure</b>                              | May cause respiratory irritation. (respiratory tract irritation)  |
| <b>STOT-repeated exposure</b>                            | Respiratory damage from prolonged or repeated exposure.   |
|  | In humans, chronic or repeated inhalation exposures have been reported to cause relapsing fevers like metal fume fever, but spontaneous reversal of pulmonary changes have been reported. (ACGIH, 7th, 2001)                                  |
|  | In a 12- to 18-month inhalation exposure study at 15 mg/m <sup>3</sup> in rats, guinea pigs, and monkeys, increased aggregates of mononuclear cells and reticular fibrosis in lungs were observed in all animal species. (DFGOT vol.2 (1991)) |



## 12. ECOLOGICAL INFORMATION

### Product hazardous information

No data available

### Components hazardous information

#### Ammonium Sulfate

##### Hazardous to the aquatic environment (Acute)

Fish (*Oncorhynchus mykiss*, juvenile)  
 LC50 (96 h) = 173 mg/L  
 Fish (*Danio rerio*) LC50 (96 h) = 420mg/L  
 Fish (Guppy) LC50 (96 h) = 126 mg/L  
 Invertebrate (*Helisoma trivolvis*)  
 LC50 (24 h) = 393 mg/L  
 Crustacea (*Daphnia magna*)  
 EC50 (96 h) > 100 mg/L  
 Algae (*Chlorella vulgaris*)  
 EC50 (18 days) = 2,700 mg/L  
*Perna viridis* EC50 (96 h) = 47.7 mg/L  
 Fish (*Oncorhynchus gorbusha*, juvenile)  
 NOEC = 11 mg/L (61 days)

##### Hazardous to the aquatic environment (Long-term)

##### Persistence and degradability

Readily degradable

##### Hazardous to the ozone layer

Not listed in the annex to the Montreal Protocol

#### Single Superphosphate

##### Hazardous to the aquatic environment

Fish  
*Labeo rohita* : LC50 (96h) = 3,460 mg/L  
*Catla catla* : LC50 (96h) = 2,620 mg/L  
*Cirrhinus mrigala* : LC50 (96h) = 1,560 mg/L  
*Cyprinus carpio* : LC50 (96h) = 3,900 mg/L  
*Tilapia mossambica* : LC50 (96h) = 5,900 mg/L  
 Daphnia (*Daphnia carinata*)  
 EC0 (22.7C, 72h) = 68 mg/L  
 EC50 (22.7C, 72h) = 80 mg/L  
 EC95 (22.7C, 72h) = 5,115 mg/L  
 EC100 (22.7C, 72h) = 5,800 mg/L  
 EC0 (30.8C, 72h) = 75 mg/L  
 EC5 (30.8C, 72h) = 82 mg/L  
 EC50 (30.8C, 72h) = 1,825 mg/L  
 EC95 (30.8C, 72h) = 5,325 mg/L  
 EC100 (30.8C, 72h) = 5.780 mg/L  
 Zooplankton  
*Moina micrura* : Avg. LC50 (72h) = 1,625 mg/L  
*Cyclops viridis* : Avg. LC50 (72h) = 2,305 mg/L  
 Aquatic insect  
*Branchiura sowerbyi* (worm) :  
 Avg. LC50 (96h) = 3,320 mg/L  
*Chironomus* (larvae) :  
 Avg. LC50 (96h) = 1,510 mg/L  
 Dragonfly (larvae) : Avg. LC50 (96h) = 1,133 mg/L  
 Mollusc  
*Planorbis exustus* : Avg. LC50 (96h) = 5,005 mg/L  
*Lymnaea leuteola* : Avg. LC50 (96h) = 2,950 mg/L  
*Viviparus bengalensis* :

##### Persistence and degradability

No data available

|   |  |
|---|--|
| <b>Bioaccumulation</b>                                  | No data available  |
| <b>Mobility in soil</b>                                 | No data available  |
| <b>Triple Super Phosphate</b>                           |  |
| <b>Hazardous to the aquatic environment</b>             | No data available  |
| <b>Persistence and degradability</b>                    | No data available  |
| <b>Bioaccumulation</b>                                  | No data available  |
| <b>Mobility in soil</b>                                 | No data available  |
| <b>Potassium Chloride</b>                               |  |
|   | All the studies compiled on the acute and chronic aquatic toxicity were > 100 mg/L. Thus it is concluded that KCl is not hazardous to freshwater organisms. Taking into considerations the background concentrations of KCl in seawater (K <sup>+</sup> 380 mg/l and Cl <sup>-</sup> 19,000 mg/l), it is concluded that there is no reason for further investigations of KCl on marine species. The low concern for the environment is supported by the absence of a bioaccumulation potential for the substance. (OECD)                             |
| <b>Hazardous to the aquatic environment (Acute)</b>     | Fish<br><i>Pimephales promelas</i> : LC50 (24h) = 950 mg/L<br>LC50 (48h) = 910 mg/L, LC50 (96h) = 880 mg/L<br><i>Ictahurus punctatus</i> : LC50 (48h) = 720 mg/L<br>Crustacea<br><i>Daphnia magna</i> :<br>EC50 (24h) = 740 mg/L, EC50 (48h) = 660 mg/L,<br>EC50 (48h) = 177 mg/L, EC50 (48h) = 141 mg/L<br><i>Ceriodaphnia dubia</i> : EC50 (48h) = 630 mg/L<br>Diaton<br><i>Nitzschia linearis</i> : EC50 (120h) = 1,337mg/L<br>Crustacea<br><i>Daphnia magna</i> : EC50 (21 d) = 130 mg/L,<br>LOEC (21d) = 101 mg/L (16% reproduction impairment) |
| <b>Hazardous to the aquatic environment (Long-term)</b> |  |
| <b>Citric Acid, Anhydrous</b>                           |  |
| <b>Hazardous to the aquatic environment, Short term</b> | Fish<br><i>Lepomis macrochirus</i> (Bluegill) :<br>LC50 (96h) = 1,516 mg/L<br><i>Leuciscus idus</i> (Cyprinidae) :<br>LC50 (96h) = 440-760 mg/L (not neutralised)<br>Crustacea<br><i>Daphnia magna</i> : EC0 = 1,206 mg/L,<br>EC50 = 1,535 mg/L,<br>EC100 = 2,083 m/L (neutralised)<br><i>Daphnia magna</i> :<br>EC0 = 73 mg/L, EC50 = 85 mg/L,<br>EC100 = 98 mg /L (not neutralised)  |

|   |   |
|---|---|
| <b>Hazardous to the aquatic environment, Long term</b>                | <p>Carcinus maenas (European green crab) :<br/>                 LC50 (48h) = 160 mg/L<br/>                 Algae<br/>                 Scenedesmus quadricauda :<br/>                 EC0 (7d) = 640 mg/L<br/>                 Pavlova lutheri :<br/>                 TLC (7d) = 1-300 mg/L "saltwater"<br/>                 Bacteria<br/>                 Microcystis aeruginosa : EC0 (8d) = 80 mg/L<br/>                 Nitrosomonas sp. :<br/>                 No inhibition on NH3 oxidation at 100 mg/L<br/>                 Pseudomonas putida : EC0 (16h) &gt; 10,000 mg/L<br/>                 Uronema parduzci : TLC = 622 mg/L<br/>                 Fish<br/>                 Carassius auratus :<br/>                 LC0 = 625 mg/L, LC100 = 894 mg/L<br/>                 "long-time exposure in soft water"<br/>                 Crustacea<br/>                 Daphnia magna :<br/>                 EC0 = 80 mg/L, EC100 = 120 mg/L<br/>                 "long-time exposure in soft water"</p> |
| <b>Persistence and degradability<br/>Hazardous to the ozone layer</b> | <p>Readily degradable<br/>                 Not listed in the annex to the Montreal Protocol.</p>  |

**Amorphous Silica (Diatomaceous Earth, Uncalcioed)**

|                                     |  |
|-------------------------------------|--|
| <b>Ecotoxicity</b>                  | No ecotoxicity under 67/548/EEC (DSD) and regulation (EC) No. 1272/2008 (CLP). |
| <b>Mobility</b>                     | No mobility under normal circumstances.  |
| <b>Degradability</b>                | It does not decompose inorganic matter.  |
| <b>Hazardous to the ozone layer</b> | Not listed in the annex to the Montreal Protocol.                              |

**13. DISPOSAL CONSIDERATIONS**

|  |  |
|--|--|
| <b>Waste from residues</b>                               | <p>Follow the relevant laws and local disposal regulations. Entrust disposal to and industrial waste contractor or local public body that is authorized by the prefectural governonr where available.<br/>                 Store waste in appropreate condition and do not drain into watercourse.</p> |
| <b>Contaminated container and contaminated packaging</b> | <p>Either clean and recycle the containers, or dispose of them suitably according to the relevant laws and regulations, and local disposal regulations. When disposing of empty containers, make sure to discard the contents completely.</p>  |

**14. TRANSPORT INFORMATION**

**International regulations  
ADR/RID**

|                             |               |
|-----------------------------|---------------|
| <b>UN number</b>            | Not regulated |
| <b>Proper shipping name</b> | Not regulated |

|   |   |
|---|---|
| <b>UN classification</b>                              | Not regulated   |
| <b>Packing group</b>                                  | Not regulated   |
| <b>IMDG</b>   |   |
| <b>UN number</b>                                      | Not regulated   |
| <b>Proper shipping name</b>                           | Not regulated   |
| <b>UN classification</b>                              | Not regulated   |
| <b>Packing group</b>                                  | Not regulated   |
| <b>Marine pollutant (Sea)<br/>the IBC code</b>        | Not applicable<br>Not regulated   |
| <b>ICAO/IATA</b>                                      |   |
| <b>UN number</b>                                      | Not regulated   |
| <b>Proper shipping name</b>                           | Not regulated   |
| <b>UN classification</b>                              | Not regulated   |
| <b>Packing group</b>                                  | Not regulated   |
| <b>Japanese regulations</b>                           |   |
| <b>Information on road transport<br/>regulation</b>   | Not regulated   |
| <b>Information on marine transport<br/>regulation</b> | Not regulated   |
| <b>Marine pollutant substance</b>                     | Not regulated   |
| <b>Information on air transport regulation</b>        | Not regulated   |
| <b>Emergency Response Guidebook<br/>(Yellow-card)</b> | Not regulated   |
| <b>Special precautions</b>                            | Check the container is not damaged, corroded, or leaked before transported. Avoid direct sunlight. Be careful not to fall, drop, or damage when loading, and ensure not to collapse. Equip the truck and ship with protective equipments (gloves, glasses, masks, etc.), and fire extinguishers, tools necessary for emergency. |

## 15. JAPANESE REGULATORY INFORMATION

|  |   |
|--|---|
| <b>Fertilizer Regulation Act</b>                                   | Fertilizer - Compound fertilizer  |
| <b>Industrial Safety and Health Act</b>                            | Dangerous and hazardous substances subject to notice and package the name: Not listed   |
| <b>Water Pollution Prevention Act</b>                              | Harmful substances (Cabinet Order Article 2, 26) :<br>Ammonia, Ammonium compounds, Nitrite compounds and Nitric acid compounds<br>Emission standard: 100mg/L (total of ammonium nitrogen x 0.4, nitrite nitrogen, and nitrate nitrogen) |
| <b>Act on Prevention of Marine Pollution and Maritime Disaster</b> | Hazardous liquid substance (Z class substance) :<br>Ammonium Sulfate solution, Potassium chloride solution  |
| <b>Air Pollution Control Act</b>                                   | Not applicable  |
| <b>Chemical Substance Emission Control Promotion Act (PRTR)</b>    | Not applicable  |

**Foreign Exchange and Foreign Trade Act**Export Trade Control Order row 16 of appended table 1  
[HS: 3102 Mineral or chemical fertilisers, nitrogenous]**16. OTHER INFORMATION****Reference**

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**Disclaimer**

This SDS was prepared on the basis of laws and information available at the date of creation, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Some new information or amendments may be added afterwards. The precautions are for normal handling. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation.

Department that wrote : R&D Section