



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name POTASSIUM CHLORIDE, 98%, TECHNICAL GRADE
Catalog # 2998
Version # 02
Revision date 12-Aug-2009
CAS # 7447-40-7
Synonym(s) CHLORIDE OF POTASH
Manufacturer information GFS Chemicals, Inc.
P.O. Box 245
Powell, OH 43065 US
www.gfschemicals.com
Fax 740-881-5989
Phone 740-881-5501
Toll Free 800-858-9682
Emergency Assistance Chemtrec 800-424-8300

2. Hazards Identification

OSHA regulatory status This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects
Eyes Dust or crystals irritating to eyes. Avoid contact with eyes. Health injuries are not known or expected under normal use.
Skin Health injuries are not known or expected under normal use.
Inhalation Dust may irritate respiratory system or lungs. Avoid breathing dust/fume/gas/mist/vapors/spray. Health injuries are not known or expected under normal use.
Ingestion Health injuries are not known or expected under normal use.
Potential environmental effects May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

| Non-hazardous components | CAS # | Percent |
|--------------------------|-----------|----------|
| POTASSIUM CHLORIDE | 7447-40-7 | 90 - 100 |

4. First Aid Measures

First aid procedures
Eye contact Rinse with water. Get medical attention if irritation develops and persists.
Skin contact Wash with soap and water.
Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
General advice If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties No unusual fire or explosion hazards noted. The product is not flammable.
Extinguishing media
Suitable extinguishing media Water. Use extinguishing agent suitable for type of surrounding fire.

Protection of firefighters

Protective equipment and precautions for firefighters In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out.

Specific methods In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for cleaning up Should not be released into the environment. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Following product recovery, flush area with water.

7. Handling and Storage

Handling Avoid release to the environment. Handle and open container with care.

Storage Use care in handling/storage.

8. Exposure Controls / Personal Protection

Personal protective equipment

Respiratory protection No personal respiratory protective equipment normally required.

Hand protection Not normally needed.

Eye / face protection Wear chemical goggles.

Skin protection Avoid contact with the skin. No special protective equipment required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

General Not normally needed.

9. Physical & Chemical Properties

Appearance Crystalline.

Color White.

Odor Odorless.

Odor threshold Not available.

Physical state Solid.

Form Solid.

pH 5.4 - 8.6 (5% aqueous solution)

Melting point 1423.4 °F (773 °C)

Freezing point 1418 °F (770 °C)

Boiling point 2732 °F (1500 °C)

Flash point Not available.

Evaporation rate Not available.

Flammability Not available.

Flammability limits in air, upper, % by volume Not available.

Flammability limits in air, lower, % by volume Not available.

Vapor pressure Not available.

Vapor density Not available.

Specific gravity 1.98

Relative density 1.98 g/cm³

Solubility (water) very soluble

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.
Percent volatile 0 % estimated
Molecular weight 74.5500 g/mol
Molecular formula KCl

10. Chemical Stability & Reactivity Information

Chemical stability Material is stable under normal conditions. No hazardous self-reactivity.
Hazardous decomposition products No hazardous decomposition products are known.
Possibility of hazardous reactions Hazardous polymerization does not occur.

11. Toxicological Information

Acute effects

Acute Oral: LD 50

| | | |
|--------------------|-----------|-----------------------|
| POTASSIUM CHLORIDE | 7447-40-7 | Rat 2600 mg/kg |
| POTASSIUM CHLORIDE | 7447-40-7 | Guinea pig 2500 mg/kg |
| POTASSIUM CHLORIDE | 7447-40-7 | Mouse 383 mg/kg |

Acute Toxicity other routes: LD 50

| | | |
|--------------------|-----------|-----------------------------|
| POTASSIUM CHLORIDE | 7447-40-7 | Rat 39 mg/kg Intravenous |
| POTASSIUM CHLORIDE | 7447-40-7 | Mouse 117 mg/kg Intravenous |

Toxicology data for the preparation

Acute LD50: 117 mg/kg, Mouse, Other
Acute LD50: 39 mg/kg, Rat, Other
Acute LD50: 2500 mg/kg, Guinea pig, Oral
Acute LD50: 383 mg/kg, Mouse, Oral
Acute LD50: 2600 mg/kg, Rat, Oral

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Further information This product has no known adverse effect on human health.

12. Ecological Information

Ecotoxicity

Contains a substance which causes risk of hazardous effects to the environment.

Invertebrate Toxicity: EC 50

| | | |
|--------------------|-----------|----------------------------------------------------------------------------------------|
| POTASSIUM CHLORIDE | 7447-40-7 | Tubificid worm (<i>Tubifex tubifex</i>) 2000 mg/l 24 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 2440 - 4020 mg/l 12 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 149 mg/l 48 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 166 mg/l 48 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 1020 - 1685 mg/l 6 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 95.3 - 170.7 mg/l 48 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 248.6 - 407.2 mg/l 24 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 78 - 97 mg/l 21 d Renewal Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 83 mg/l 48 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 87 - 108 mg/l 21 d Renewal Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 204 mg/l 64 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 290 - 480 mg/l 24 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Tubificid worm (<i>Tubifex tubifex</i>) 1026 - 1671 mg/l 48 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 2770 - 4340 mg/l 24 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 155 - 280 mg/l 24 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 1690 - 2810 mg/l 6 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 1890 - 3080 mg/l 6 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 1980 - 3060 mg/l 24 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 2100 - 3330 mg/l 3 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 2250 - 3490 mg/l 6 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 2250 - 3490 mg/l 6 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 236 - 3880 mg/l 3 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 2400 - 4444 mg/l 6 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 93 mg/l 48 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Tubificid worm (<i>Tubifex tubifex</i>) 738 - 937 mg/l 96 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 300 - 510 mg/l 24 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Water flea (<i>Daphnia magna</i>) 228 mg/l 64 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 2880 - 4370 mg/l 3 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 1340 - 2240 mg/l 12 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 300 - 530 mg/l 24 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 3060 - 4765 mg/l 3 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 3060 - 4765 mg/l 3 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 3390 - 5480 mg/l 12 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 3800 - 7190 mg/l 6 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 400 - 690 mg/l 12 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 4260 - 7456 mg/l 12 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 4260 - 7465 mg/l 12 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 500 - 920 mg/l 24 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 5010 - 7010 mg/l 3 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 5765 - 9585 mg/l 3 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 6380 - 11690 mg/l 6 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 6380 - 11960 mg/l 6 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 650 - 1470 mg/l 3 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 7100 - 15930 mg/l 3 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 7100 - 15930 mg/l 3 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 720 - 1150 mg/l 12 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 770 - 1300 mg/l 12 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 800 - 1400 mg/l 12 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 840 - 1440 mg/l 6 h Static Intoxication |
| POTASSIUM CHLORIDE | 7447-40-7 | Zebra mussel (<i>Dreissena polymorpha</i>) 2420 - 3410 mg/l 24 h Static Intoxication |

Micro-organisms Toxicity: LC 50

| | | |
|--------------------|-----------|-----------------------------------------------------------------------------|
| POTASSIUM CHLORIDE | 7447-40-7 | Nematode (<i>Caenorhabditis elegans</i>) 43609 mg/l 24 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Nematode (<i>Caenorhabditis elegans</i>) 41560 mg/l 48 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Nematode (<i>Caenorhabditis elegans</i>) 41200 mg/l 24 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Nematode (<i>Caenorhabditis elegans</i>) 40830 mg/l 24 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Nematode (<i>Caenorhabditis elegans</i>) 39130 mg/l 48 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Nematode (<i>Caenorhabditis elegans</i>) 29960 mg/l 48 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Nematode (<i>Caenorhabditis elegans</i>) 29854 mg/l 24 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Nematode (<i>Caenorhabditis elegans</i>) 42049 mg/l 24 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Nematode (<i>Caenorhabditis elegans</i>) 29839 mg/l 24 h Static Mortality |
| POTASSIUM CHLORIDE | 7447-40-7 | Diatom (<i>Nitzschia linearis</i>) 1337 mg/l 5 d Static Mortality |

Environmental effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability

Not available.

13. Disposal Considerations

Disposal instructions Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

Waste from residues / unused products Not applicable.

14. Transport Information

DOT

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|-------------------------------------------------------------------|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of New and Existing Chemicals (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings Health: 1
Flammability: 0
Physical hazard: 0

NFPA ratings Health: 0
Flammability: 0
Instability: 0

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Issue date

12-Aug-2009

This data sheet contains changes from the previous version in section(s):

This document has undergone significant changes and should be reviewed in its entirety.