



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name POTASSIUM CHLORIDE, REAGENT (ACS)
Version # 02
Issue date June-07-2013
Revision date August-12-2009
Supersedes date September-18-2007
CAS # 7447-40-7
Product code 653
Manufacturer information GFS Chemicals, Inc.
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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

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions

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

Eye / face protection

Wear chemical goggles.

Skin protection

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

Respiratory protection

No personal respiratory protective equipment normally required.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance

Crystalline.

Physical state

Solid.

Form

Solid.

Color

White.

Odor

Odorless.

Odor threshold

Not available.

pH

5.4 - 8.6 (5% aqueous solution)

Vapor pressure

<= -0.0001 kPa at 25°C

Vapor density

Not available.

Boiling point

2732 °F (1500 °C)

Melting point/Freezing point

1423.4 °F (773 °C) / 1418 °F (770 °C)

Solubility (water)

very soluble

Specific gravity

1.98
1.984

Relative density

Not available.

Flash point

Not available.

Flammability limits in air, upper, % by volume

Not available.

Flammability limits in air, lower, % by volume

Not available.

Auto-ignition temperature

Not available.

Molecular weight

74.55 g/mol
74.5500 g/mol

Molecular formula

Cl-K
KCl

Other data

Density 1.98 g/cm³
1.98 g/cm³ estimated

10. Chemical Stability & Reactivity Information

Chemical stability Material is stable under normal conditions. No hazardous self-reactivity.
Conditions to avoid Not available.
Incompatible materials Not available.
Hazardous decomposition products No hazardous decomposition products are known.
Possibility of hazardous reactions Hazardous polymerization does not occur.

11. Toxicological Information**Toxicological data**

Product	Species	Test Results
POTASSIUM CHLORIDE (CAS 7447-40-7)		
Acute		
<i>Oral</i>		
LD50	Guinea pig	2500 mg/kg
	Mouse	383 mg/kg
	Rat	2600 mg/kg
<i>Other</i>		
LD50	Mouse	117 mg/kg
	Rat	39 mg/kg

12. Ecological Information**Ecotoxicological data**

Product	Species	Test Results
POTASSIUM CHLORIDE (CAS 7447-40-7)		
Aquatic		
Crustacea	EC50	Tubificid worm (Tubifex tubifex)
		2000 mg/l, 24 hours
		1026 - 1671 mg/l, 48 hours
		738 - 937 mg/l, 96 hours
		Water flea (Daphnia magna)
		248.6 - 407.2 mg/l, 24 hours
		228 mg/l, 64 hours
		204 mg/l, 64 hours
		166 mg/l, 48 hours
		149 mg/l, 48 hours
		95.3 - 170.7 mg/l, 48 hours
		93 mg/l, 48 hours
		87 - 108 mg/l, 21 days
		83 mg/l, 48 hours
		78 - 97 mg/l, 21 days
		Zebra mussel (Dreissena polymorpha)
		7100 - 15930 mg/l, 3 hours
		6380 - 11690 mg/l, 6 hours
		6380 - 11960 mg/l, 6 hours
		5765 - 9585 mg/l, 3 hours
		5010 - 7010 mg/l, 3 hours

Product	Species	Test Results
		4260 - 7465 mg/l, 12 hours
		4260 - 7456 mg/l, 12 hours
		3800 - 7190 mg/l, 6 hours
		3390 - 5480 mg/l, 12 hours
		3060 - 4765 mg/l, 3 hours
		2880 - 4370 mg/l, 3 hours
		2770 - 4340 mg/l, 24 hours
		2440 - 4020 mg/l, 12 hours
		2420 - 3410 mg/l, 24 hours
		2400 - 4444 mg/l, 6 hours
		2250 - 3490 mg/l, 6 hours
		2100 - 3330 mg/l, 3 hours
		1980 - 3060 mg/l, 24 hours
		1890 - 3080 mg/l, 6 hours
		1690 - 2810 mg/l, 6 hours
		1340 - 2240 mg/l, 12 hours
		1020 - 1685 mg/l, 6 hours
		840 - 1440 mg/l, 6 hours
		800 - 1400 mg/l, 12 hours
		770 - 1300 mg/l, 12 hours
		720 - 1150 mg/l, 12 hours
		650 - 1470 mg/l, 3 hours
		500 - 920 mg/l, 24 hours
		400 - 690 mg/l, 12 hours
		300 - 510 mg/l, 24 hours
		300 - 530 mg/l, 24 hours
		290 - 480 mg/l, 24 hours
		236 - 3880 mg/l, 3 hours
		155 - 280 mg/l, 24 hours
LC50	Crayfish (<i>Austropotamobius pallipes pall</i>)	390 mg/l, 96 hours
		350 mg/l, 96 hours
		280 mg/l, 30 days
		251 mg/l, 30 days
		210 mg/l, 30 days
		188 mg/l, 30 days
	Crayfish (<i>Orconectes limosus</i>)	640 mg/l, 96 hours
		574 mg/l, 96 hours
		450 mg/l, 30 days
		404 mg/l, 30 days
		330 mg/l, 30 days
		296 mg/l, 30 days
	European physa, bladder snail (<i>Physella acuta</i>)	940 mg/l, 96 hours

Product	Species	Test Results
	Harpacticoid copepod (<i>Nitocra spinipes</i>)	296 - 684 mg/l, 96 hours 266 - 614 mg/l, 96 hours
	Long fingernail clam (<i>Musculium transversum</i>)	3150 mg/l, 48 hours 2830 mg/l, 48 hours 2046 - 3564 mg/l, 72 hours 1837 - 3199 mg/l, 72 hours 1753 - 4158 mg/l, 48 hours 1678 - 3725 mg/l, 96 hours 1574 - 3732 mg/l, 48 hours 1574 - 2440 mg/l, 72 hours 1506 - 3344 mg/l, 96 hours 1413 - 2190 mg/l, 72 hours 1313 - 2537 mg/l, 96 hours 1179 - 2277 mg/l, 96 hours 1118 - 2898 mg/l, 5 days 1009 - 1381 mg/l, 6 days 1003 - 2601 mg/l, 5 days 960 - 2940 mg/l, 72 hours 931 - 1231 mg/l, 6 days 906 - 1240 mg/l, 6 days 894 - 1164 mg/l, 8 days 862 - 2640 mg/l, 72 hours 845 - 1137 mg/l, 7 days 835 - 1105 mg/l, 6 days 802 - 1045 mg/l, 8 days 784 - 1092 mg/l, 8 days 775 - 1290 mg/l, 96 hours 758 - 1021 mg/l, 7 days 709 - 996 mg/l, 10 days 708 - 1020 mg/l, 10 days 707 - 1094 mg/l, 48 hours 704 - 980 mg/l, 8 days 696 - 1160 mg/l, 96 hours 636 - 916 mg/l, 10 days 636 - 894 mg/l, 10 days 635 - 982 mg/l, 48 hours 543 - 863 mg/l, 13 days 487 - 775 mg/l, 13 days 475 - 661 mg/l, 16 days 430 mg/l, 22 days 426 - 593 mg/l, 16 days 419 - 621 mg/l, 6 days

Product	Species	Test Results
		410 - 497 mg/l, 16 days
		406 - 718 mg/l, 13 days
		403 - 571 mg/l, 19 days
		376 - 557 mg/l, 6 days
		368 - 446 mg/l, 16 days
		366 - 738 mg/l, 96 hours
		364 - 644 mg/l, 13 days
		362 - 512 mg/l, 19 days
		344 - 563 mg/l, 19 days
		328 - 662 mg/l, 96 hours
		310 - 516 mg/l, 23 days
		310 - 865 mg/l, 48 hours
		309 - 505 mg/l, 19 days
		305 - 787 mg/l, 36 hours
		301 - 500 mg/l, 27 days
		293 - 467 mg/l, 72 hours
		292 - 648 mg/l, 5 days
		283 - 362 mg/l, 10 days
		280 - 437 mg/l, 8 days
		278 - 463 mg/l, 23 days
		278 - 776 mg/l, 48 hours
		277 - 630 mg/l, 48 hours
		274 - 706 mg/l, 36 hours
		271 - 355 mg/l, 13 days
		270 - 449 mg/l, 27 days
		263 - 419 mg/l, 72 hours
		262 - 582 mg/l, 5 days
		261 - 345 mg/l, 16 days
		260 - 394 mg/l, 29 days
		258 - 397 mg/l, 25 days
		254 - 325 mg/l, 10 days
		251 - 392 mg/l, 8 days
		249 - 566 mg/l, 48 hours
		243 - 319 mg/l, 13 days
		234 - 310 mg/l, 16 days
		233 - 354 mg/l, 29 days
		232 - 356 mg/l, 25 days
		229 - 342 mg/l, 96 hours
		225 - 399 mg/l, 7 days
		213 - 343 mg/l, 10 days
		206 - 307 mg/l, 96 hours
		202 - 358 mg/l, 7 days

Product	Species	Test Results
		191 - 308 mg/l, 10 days
		185 - 281 mg/l, 6 days
		175 - 372 mg/l, 72 hours
		167 - 270 mg/l, 8 days
		166 - 252 mg/l, 6 days
		157 - 334 mg/l, 72 hours
		156 - 257 mg/l, 10 days
		156 - 257 mg/l, 13 days
		150 - 240 mg/l, 8 days
		140 - 231 mg/l, 10 days
		140 - 231 mg/l, 13 days
		128 - 268 mg/l, 96 hours
		119 - 237 mg/l, 5 days
		117 - 253 mg/l, 72 hours
		115 - 240 mg/l, 96 hours
		107 - 213 mg/l, 5 days
		105 - 227 mg/l, 72 hours
		94 - 174 mg/l, 96 hours
		84 - 156 mg/l, 96 hours
	Mussel (<i>Anodonta imbecillis</i>)	54 - 112 mg/l, 24 hours
	Oligochaete (<i>Nais variabilis</i>)	75 mg/l, 48 hours
		67 mg/l, 48 hours
	Pond snail (<i>Lymnaea</i>)	1941 mg/l, 24 hours
		1492 mg/l, 48 hours
		1100 mg/l, 96 hours
		1018 mg/l, 72 hours
	Scud (<i>Hyalella azteca</i>)	351.2 - 394.6 mg/l, 96 hours
		320 mg/l, 96 hours
		316.5 - 356 mg/l, 96 hours
		293.8 - 350 mg/l, 96 hours
		285.5 - 398.2 mg/l, 96 hours
		281.7 - 374.2 mg/l, 96 hours
		267.3 - 330.7 mg/l, 96 hours
		240.2 - 316.3 mg/l, 96 hours
		221.9 - 281.6 mg/l, 96 hours
		216 mg/l, 96 hours
		205.3 - 262.2 mg/l, 96 hours
		134 mg/l, 96 hours
		100.7 - 199.8 mg/l, 96 hours
	Snail (<i>Physastra gibbosa</i>)	940 mg/l, 96 hours
	Water flea (<i>Ceriodaphnia dubia</i>)	580 - 630 mg/l, 24 hours
		580 - 670 mg/l, 48 hours

Product		Species	Test Results
		Water flea (<i>Daphnia magna</i>)	679 mg/l, 4.2 days 580 - 880 mg/l, 24 hours 440 - 880 mg/l, 48 hours 357 mg/l, 48 hours 343 mg/l, 24 hours 337 mg/l, 48 hours 117 mg/l, 72 hours 29 mg/l, 96 hours
		Zebra mussel (<i>Dreissena polymorpha</i>)	535 - 4203 mg/l, 24 hours 444 - 6477 mg/l, 24 hours 429 - 1518 mg/l, 24 hours 396 - 1211 mg/l, 24 hours 195 - 404 mg/l, 24 hours 144 - 826 mg/l, 24 hours 132 - 163 mg/l, 48 hours 129 - 175 mg/l, 48 hours 123 - 161 mg/l, 24 hours 120 - 159 mg/l, 24 hours 118 - 191 mg/l, 24 hours 92 - 146 mg/l, 24 hours 89 - 159 mg/l, 24 hours 81 - 129 mg/l, 24 hours 76 - 126 mg/l, 24 hours 71 - 104 mg/l, 24 hours 67 - 122 mg/l, 24 hours 63 - 106 mg/l, 24 hours 61 - 126 mg/l, 24 hours 61 - 125 mg/l, 24 hours 60 - 123 mg/l, 24 hours 46 - 66 mg/l, 24 hours 45 - 94 mg/l, 24 hours
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	5500 mg/l, 24 hours 2010 mg/l, 96 hours 1060 mg/l, 96 hours 951 mg/l, 96 hours
		Channel catfish (<i>Ictalurus punctatus</i>)	6975 - 7757 mg/l, 24 hours 588 - 882 mg/l, 48 hours
		Fathead minnow (<i>Pimephales promelas</i>)	2133 - 2850 mg/l, 24 hours 750 - 1090 mg/l, 24 hours 750 - 1090 mg/l, 48 hours 750 - 1020 mg/l, 96 hours
		Golden shiner (<i>Notemigonus crysoleucas</i>)	715 - 932 mg/l, 24 hours

Product	Species	Test Results
	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	1223 - 2119 mg/l, 48 hours 923 - 1536 mg/l, 24 hours
	Striped bass (Morone saxatilis)	2911 - 4200 mg/l, 24 hours 458 - 565 mg/l, 24 hours
	Western mosquitofish (Gambusia affinis)	5300 mg/l, 24 hours 4700 mg/l, 24 hours 2200 mg/l, 48 hours 1990 mg/l, 48 hours 485 mg/l, 96 hours 435 mg/l, 96 hours
Other	LC50	Diatom (Nitzschia linearis) Nematode (Caenorhabditis elegans)
		1337 mg/l, 5 days 43609 mg/l, 24 hours 42049 mg/l, 24 hours 41560 mg/l, 48 hours 41200 mg/l, 24 hours 40830 mg/l, 24 hours 39130 mg/l, 48 hours 29960 mg/l, 48 hours 29854 mg/l, 24 hours 29839 mg/l, 24 hours

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.

IATA
Not regulated as dangerous goods.

IMDG
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.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

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

SARA 302 Extremely hazardous substance
 No

SARA 311/312 Hazardous chemical
 No

Food and Drug Administration (FDA)
 Total food additive
 Direct food additive
 GRAS food additive

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 Existing Commercial Chemical Substances (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.

US. Massachusetts RTK - Substance List

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

US. Rhode Island RTK

Not regulated.

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.

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.