

## 1. Identification

<b>Product identifier</b>	<b>CALCIUM, 1000 ppm STANDARD SOLUTION</b>	
<b>Other means of identification</b>		
<b>Product code</b>	744	
<b>Recommended use</b>	professional, scientific and technical activities: other professional, scientific and technical activities	
<b>Recommended restrictions</b>	None known.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Company name</b>	GFS Chemicals, Inc.	
<b>Address</b>	P.O. Box 245 Powell OH 43065 US	
<b>Telephone</b>	Phone	740-881-5501
	Toll Free	800-858-9682
	Fax	740-881-5989
<b>Website</b>	www.gfschemicals.com	
<b>E-mail</b>	service@gfschemicals.com	
<b>Emergency phone number</b>	Emergency Assistance	Chemtrec 800-424-9300

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Sensitization, respiratory	Category 1
<b>OSHA hazard(s)</b>	Not classified.	
<b>Label elements</b>		



<b>Signal word</b>	Danger	
<b>Hazard statement</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Harmful to aquatic life.	
<b>Precautionary statement</b>		
<b>Prevention</b>	Not available.	
<b>Response</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
<b>Storage</b>	Not available.	
<b>Disposal</b>	Not available.	
<b>Hazard(s) not otherwise classified (HNOC)</b>	Not classified.	
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 3
<b>Supplemental information</b>		
<b>Precautionary statement</b>		
<b>Prevention</b>	Avoid release to the environment.	
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.	

## 3. Composition/information on ingredients

### Mixtures

<b>Hazardous components</b>		
<b>Chemical name</b>	<b>CAS number</b>	<b>%</b>
HYDROGEN CHLORIDE	7647-01-0	<1
<b>Non-hazardous components</b>		
<b>Chemical name</b>	<b>CAS number</b>	<b>%</b>
WATER	7732-18-5	>99
CALCIUM CHLORIDE	10043-52-4	0.3

This material is not considered to be hazardous according to regulatory guidelines (see Section 15 of the MSDS). \*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

#### 4. First-aid measures

<b>Inhalation</b>	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
<b>Skin contact</b>	Rinse skin with water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	May cause allergic respiratory reaction.
<b>Indication of immediate medical attention and special treatment needed</b>	Symptoms may be delayed. Provide general supportive measures and treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use extinguishing agent suitable for type of surrounding fire. Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	Not applicable.
<b>Special protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Wear suitable protective equipment.
<b>Fire-fighting equipment/instructions</b>	Water runoff can cause environmental damage.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Wear appropriate protective equipment and clothing during clean-up. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Avoid inhalation of vapors or mists. Wear appropriate personal protective equipment.
<b>Methods and materials for containment and cleaning up</b>	This product is miscible in water. Small quantities may be flushed to drains with plenty of water. Following product recovery, flush area with water.  Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.
<b>Environmental precautions</b>	Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

#### 7. Handling and storage

<b>Precautions for safe handling</b>	In case of insufficient ventilation, wear suitable respiratory equipment. Avoid breathing mist or vapor. Avoid prolonged exposure. Avoid release to the environment. Do not empty into drains.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a well-ventilated place. Keep container tightly closed. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
HYDROGEN CHLORIDE (CAS 7647-01-0)	Ceiling	7 mg/m <sup>3</sup>  5 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
HYDROGEN CHLORIDE (CAS 7647-01-0)	Ceiling	2 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
HYDROGEN CHLORIDE (CAS 7647-01-0)	Ceiling	7 mg/m <sup>3</sup>  5 ppm

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear safety glasses with side shields (or goggles).

#### Skin protection

##### Hand protection

Wear protective gloves.

##### Other

Normal work clothing (long sleeved shirts and long pants) is recommended.

#### Respiratory protection

No personal respiratory protective equipment normally required.

#### Thermal hazards

Not available.

### General hygiene considerations

Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

Clear.

### Physical state

Liquid.

### Form

Liquid. Aqueous solution.

### Color

Colorless.

### Odor

Odorless.

### Odor threshold

Not available.

### pH

Not available.

### Melting point/freezing point

32 °F (0 °C) estimated

### Initial boiling point and boiling range

> 212 °F (> 100 °C) estimated

### Flash point

Not available.

### Evaporation rate

Not available.

### Flammability (solid, gas)

Not applicable.

### Upper/lower flammability or explosive limits

#### Flammability limit - lower (%)

Not available.

#### Flammability limit - upper (%)

Not available.

#### Explosive limit - lower (%)

Not available.

#### Explosive limit - upper (%)

Not available.

### Vapor density

Not available.

### Relative density

Not available.

### Solubility(ies)

Miscible.

<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	1.02 g/cm <sup>3</sup> estimated
<b>Percent volatile</b>	> 99 %
<b>Specific gravity</b>	1.02 estimated

## 10. Stability and reactivity

<b>Reactivity</b>	Not available.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	None under normal conditions.
<b>Incompatible materials</b>	None known.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	Based on available data, the classification criteria are not met.
<b>Inhalation</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin contact</b>	Due to lack of data the classification is not possible.
<b>Eye contact</b>	Due to lack of data the classification is not possible.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

#### Acute toxicity

Product	Species	Test Results
CALCIUM, 1000 ppm STANDARD SOLUTION (CAS Mixture)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Mouse	99999 mg/l
	Rat	99999 mg/l
<i>Oral</i>		
LD50	Rabbit	99999 mg/kg
	Rat	99999 mg/kg
<i>Other</i>		
LD50	Mouse	13379.501 mg/kg, estimated

Components	Species	Test Results
HYDROGEN CHLORIDE (CAS 7647-01-0)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Mouse	1449 mg/kg
<i>Inhalation</i>		
LC50	Mouse	1108 mg/l, 1 Hours
	Rat	3124 mg/l, 1 Hours
<i>Oral</i>		
LD50	Rabbit	900 mg/kg

Components	Species	Test Results
<i>Other</i> LD50	Mouse	1449 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Due to lack of data the classification is not possible.
<b>Serious eye damage/eye irritation</b>	Due to lack of data the classification is not possible.
<b>Respiratory sensitization</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin sensitization</b>	Due to lack of data the classification is not possible.
<b>Germ cell mutagenicity</b>	Due to lack of data the classification is not possible.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

HYDROGEN CHLORIDE (CAS 7647-01-0) 3 Not classifiable as to carcinogenicity to humans.

<b>Reproductive toxicity</b>	Due to lack of data the classification is not possible.
<b>Specific target organ toxicity - single exposure</b>	Due to lack of data the classification is not possible.
<b>Specific target organ toxicity - repeated exposure</b>	Due to lack of data the classification is not possible.
<b>Aspiration hazard</b>	Due to lack of data the classification is not possible.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life. Contains a substance which causes risk of hazardous effects to the environment.

Product	Species	Test Results
CALCIUM, 1000 ppm STANDARD SOLUTION (CAS Mixture) Crustacea	EC50	Daphnia
		99999 mg/l, 21 Days
		99999 mg/l, 24 Hours
		99999 mg/l, 48 Hours
	LC50	Daphnia
		99999 mg/l, 64 Hours
		96419 mg/l, 96 Hours
		99999 mg/l, 24 Hours
		99999 mg/l, 25 Hours
		99999 mg/l, 4.2 Days
	LC50	Daphnia
		99999 mg/l, 50 Hours
		99999 mg/l, 72 Hours
		99999 mg/l, 96 Hours
Fish	LC50	Fish
		47211 mg/l, 48 Hours
		99999 mg/l, 5 Days
		55731 mg/l, 96 Hours
		55319 mg/l, 24 Hours
		55192 mg/l, 48 Hours

Components	Species	Test Results
HYDROGEN CHLORIDE (CAS 7647-01-0)		
Crustacea	LC50	Green or European shore crab ( <i>Carcinus maenas</i> )
		240 mg/l, 48 hours
<b>Aquatic</b>		
Crustacea	LC50	Common shrimp, sand shrimp ( <i>Crangon crangon</i> )
		260 mg/l, 48 hours
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> )
		282 mg/l, 24 hours 282 mg/l, 48 hours

\* Estimates for product may be based on additional component data not shown.

<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	Not available.
<b>Mobility in soil</b>	Not available.
<b>Other adverse effects</b>	Not available.

### 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Neutralize with soda ash/slaked lime and discharge to sewer with lots of water. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Not available.
<b>Hazardous waste code</b>	D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

#### DOT

Not regulated as a hazardous material by DOT.

#### IATA

Not regulated as a dangerous good.

#### IMDG

Not regulated as a dangerous good.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** No information available.

### 15. Regulatory information

**US federal regulations** All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not on regulatory list.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

HYDROGEN CHLORIDE (CAS 7647-01-0) LISTED

#### 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

#### Other federal regulations

##### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

HYDROGEN CHLORIDE (CAS 7647-01-0)

##### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

HYDROGEN CHLORIDE (CAS 7647-01-0)

**Safe Drinking Water Act (SDWA)** Not regulated.

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

HYDROGEN CHLORIDE (CAS 7647-01-0) 6545

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

HYDROGEN CHLORIDE (CAS 7647-01-0) 20 %WV

**DEA Exempt Chemical Mixtures Code Number**

HYDROGEN CHLORIDE (CAS 7647-01-0) 6545

**Food and Drug Administration (FDA)** Not regulated.

**US state regulations** California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**US. Massachusetts RTK - Substance List**

HYDROGEN CHLORIDE (CAS 7647-01-0)

**US. New Jersey Worker and Community Right-to-Know Act**

HYDROGEN CHLORIDE (CAS 7647-01-0) 500 LBS

**US. Pennsylvania RTK - Hazardous Substances**

HYDROGEN CHLORIDE (CAS 7647-01-0)

**US. Rhode Island RTK**

HYDROGEN CHLORIDE (CAS 7647-01-0)

**US. California Proposition 65**

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

**International Inventories**

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 this product complies with the inventory requirements administered by the governing country(s)

**16. Other information, including date of preparation or last revision**

**Issue date** April-26-2013

**Version #** 01

**Further information** Not available.

**Disclaimer** The information in the sheet was written based on the best knowledge and experience currently available. 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.

**Revision Information** Product and Company Identification: Alternate Trade Names  
Composition / Information on Ingredients: Ingredients  
Physical & Chemical Properties: Multiple Properties  
Regulatory Information: Safety Phrases