# SAFETY DATA SHEET

## 1. Identification

| | | |
|---|---|---|
| **Product identifier** | **NITRIC ACID, REAGENT (ACS)** | |
| **Other means of identification** | | |
| **Product code** | 626 | |
| **Synonyms** | AQUA FORTIS | |
| **Recommended use** | manufacture of other chemical products, professional, scientific and technical activities: other professional, scientific and technical activities | |
| **Recommended restrictions** | None known. | |
| **Manufacturer/Importer/Supplier/Distributor information** | | |
| **Manufacturer** | | |
| **Company name** | GFS Chemicals, Inc. | |
| **Address** | P.O. Box 245<br>Powell, OH 43065<br>United States | |
| **Telephone** | Phone | 740-881-5501 |
| | Toll Free | 800-858-9682 |
| | Fax | 740-881-5989 |
| **Website** | www.gfschemicals.com | |
| **E-mail** | service@gfschemicals.com | |
| **Emergency phone number** | Emergency Assistance | Chemtrec 800-424-9300 |

## 2. Hazard(s) identification

| | | |
|---|---|---|
| **Physical hazards** | Oxidizing liquids | Category 3 |
| | Corrosive to metals | Category 1 |
| **Health hazards** | Skin corrosion/irritation | Category 1 |
| | Serious eye damage/eye irritation | Category 1 |
| | Specific target organ toxicity, repeated exposure | Category 2 |
| **Environmental hazards** | Not classified. | |
| **OSHA defined hazards** | Not classified. | |

**Label elements**

| | |
|---|---|
| **Signal word** | Danger |
| **Hazard statement** | May intensify fire; oxidizer. May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure. |
| **Precautionary statement** | |
| **Prevention** | Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. |
| **Response** | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse. In case of fire: Use water to extinguish. Absorb spillage to prevent material damage. |
| **Storage** | Store locked up. Store in corrosive resistant container with a resistant inner liner. |

| | |
|---|---|
| **Disposal** | Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. |
| **Hazard(s) not otherwise classified (HNOC)** | None known. |
| **Supplemental information** | 67.5% of the mixture consists of component(s) of unknown acute oral toxicity. 67.5% of the mixture consists of component(s) of unknown acute dermal toxicity. 67.5% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 67.5% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment. |

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| NITRIC ACID | | 7697-37-2 | 65 - < 70 |
| WATER | | 7732-18-5 | 30 - < 35 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

| | |
|---|---|
| **Inhalation** | Move to fresh air. Call a physician if symptoms develop or persist. |
| **Skin contact** | IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse. |
| **Eye contact** | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately. |
| **Ingestion** | Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. |
| **Most important symptoms/effects, acute and delayed** | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects. |
| **Indication of immediate medical attention and special treatment needed** | Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed. |
| **General information** | Take off all contaminated clothing immediately. Contact with combustible material may cause fire. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse. |

## 5. Fire-fighting measures

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| **Suitable extinguishing media** | Water. |
| **Unsuitable extinguishing media** | Do not use water jet as an extinguisher, as this will spread the fire. |
| **Specific hazards arising from the chemical** | Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed. |
| **Special protective equipment and precautions for firefighters** | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| **Fire fighting equipment/instructions** | In case of fire and/or explosion do not breathe fumes. In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. |
| **Specific methods** | Use standard firefighting procedures and consider the hazards of other involved materials. |
| **General fire hazards** | May intensify fire; oxidizer. Contact with combustible material may cause fire. |

## 6. Accidental release measures

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|---|---|
| **Personal precautions, protective equipment and emergency procedures** | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |

**Methods and materials for containment and cleaning up**

Stop leak if you can do so without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent entry into waterways, sewers, basements or confined areas. Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up. Should not be released into the environment. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations.

Large Spills: Dike the spilled material, where this is possible. Neutralize spilled material with crushed limestone, soda ash or lime. Following product recovery, flush area with water.

Small Spills: Neutralize small amounts with sodium bicarbonate or lime and flush to sewer with large amounts of water. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling**

Keep away from heat. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

**Occupational exposure limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

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

| Components | Type | Value |
|---|---|---|
| NITRIC ACID (CAS 7697-37-2) | PEL | 5 mg/m3 |
| | | 2 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| NITRIC ACID (CAS 7697-37-2) | STEL | 4 ppm |
| | TWA | 2 ppm |

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

| Components | Type | Value |
|---|---|---|
| NITRIC ACID (CAS 7697-37-2) | STEL | 10 mg/m3 |
| | | 4 ppm |
| | TWA | 5 mg/m3 |
| | | 2 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. Eye wash facilities and emergency shower must be available when handling this product. An eye wash and safety shower must be available in the immediate work area.

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

**Eye/face protection**

Chemical goggles are recommended. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**Skin protection**

**Hand protection**

Wear appropriate chemical resistant gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

**Other**

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

| | |
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| **Respiratory protection** | If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with acid gas cartridge. |
| **Thermal hazards** | Wear appropriate thermal protective clothing, when necessary. |
| **General hygiene considerations** | Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9. Physical and chemical properties

| | |
|---|---|
| **Appearance** | Clear. |
| **Physical state** | Liquid. |
| **Form** | Liquid. |
| **Color** | Colorless. |
| **Odor** | Pungent. |
| **Odor threshold** | Not available. |
| **pH** | < 1 Very acidic. |
| **Melting point/freezing point** | -19 °F (-28 °C) estimated |
| **Initial boiling point and boiling range** | 249.8 °F (121 °C) Constant boiling composition. |
| **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 pressure** | 48 mm Hg @ 20 °C |
| **Vapor density** | 2 - 3 |
| **Relative density** | Not available. |
| **Solubility(ies)** | |
| **Solubility (water)** | Not available. |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |
| **Other information** | |
| **Density** | 1.41 g/cm3 |
| **Explosive properties** | Not explosive. |
| **Molecular formula** | HNO3 |
| **Molecular weight** | 63.01 |
| **Oxidizing properties** | May intensify fire; oxidizer. |
| **Percent volatile** | 100 % |
| **Specific gravity** | 1.41 |

## 10. Stability and reactivity

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|---|---|
| **Reactivity** | Greatly increases the burning rate of combustible materials. Reacts violently with strong alkaline substances. This product may react with reducing agents. May be corrosive to metals. |
| **Chemical stability** | Stable at normal conditions. |
| **Possibility of hazardous reactions** | Hazardous polymerization does not occur. |

| | |
|---|---|
| **Conditions to avoid** | Heat. Contact with incompatible materials. Do not mix with other chemicals. |
| **Incompatible materials** | Bases. Strong oxidizing agents. Combustible material. Reducing agents. Metals. Contact with metals may evolve flammable hydrogen gas. Alcohols. Flammable materials. Reducing agents. |
| **Hazardous decomposition products** | Nitrogen oxides (NOx). |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system. |
| **Skin contact** | Causes severe skin burns. |
| **Eye contact** | Causes serious eye damage. |
| **Ingestion** | Causes digestive tract burns. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. |

**Information on toxicological effects**

**Acute toxicity** Not known.

| Product | Species | Test Results |
|---|---|---|
| NITRIC ACID, REAGENT (ACS) | | |
| **Acute** | | |
| **Inhalation** | | |
| LC50 | Mouse | 230 mg/l |

| Components | Species | Test Results |
|---|---|---|
| NITRIC ACID (CAS 7697-37-2) | | |
| **Acute** | | |
| **Inhalation** | | |
| LC50 | Mouse | 244 mg/l, 30 Minutes |
| | | 67 mg/l, 4 Hours |
| | Rat | 334 mg/l, 30 Minutes |
| | | 244 mg/l, 30 Minutes |
| | | 138 mg/l, 30 Minutes |
| | | 65 mg/l, 4 Hours |

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

| | |
|---|---|
| **Skin corrosion/irritation** | Causes severe skin burns and eye damage. |
| **Serious eye damage/eye irritation** | Causes serious eye damage. |

**Respiratory or skin sensitization**

| | |
|---|---|
| **Respiratory sensitization** | Not a respiratory sensitizer. |
| **Skin sensitization** | This product is not expected to cause skin sensitization. |
| **Germ cell mutagenicity** | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| **Carcinogenicity** | Not classifiable as to carcinogenicity to humans. |

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

**US OSHA Hazard Categories (1)**

Not regulated.

**US OSHA Hazard Categories (10)**

Not regulated.

**US OSHA Hazard Categories (2)**

Not regulated.

**US OSHA Hazard Categories (3)**

Not regulated.

**US OSHA Hazard Categories (4)**

Not regulated.

**US OSHA Hazard Categories (5)**

Not regulated.

**US OSHA Hazard Categories (6)**

Not regulated.

**US OSHA Hazard Categories (7)**

Not regulated.

**US OSHA Hazard Categories (8)**

Not regulated.

**US OSHA Hazard Categories (9)**

Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

| | |
|---|---|
| **Reproductive toxicity** | This product is not expected to cause reproductive or developmental effects. |
| **Specific target organ toxicity - single exposure** | Not classified. |
| **Specific target organ toxicity - repeated exposure** | May cause damage to organs through prolonged or repeated exposure. |
| **Aspiration hazard** | Not an aspiration hazard. |
| **Chronic effects** | Hazardous by WHMIS criteria. May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. |
| **Further information** | Corrosive effects. |

## 12. Ecological information

**Ecotoxicity** Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

| Product | | Species | Test Results |
|---|---|---|---|
| NITRIC ACID, REAGENT (ACS) | | | |
| **Aquatic** | | | |
| Crustacea | LC50 | Daphnia | 626 mg/l, 48 Hours |
| Fish | LC50 | Fish | 319 mg/l, 48 Hours |

| Components | | Species | Test Results |
|---|---|---|---|
| NITRIC ACID (CAS 7697-37-2) | | | |
| **Aquatic** | | | |
| Crustacea | LC50 | Cockle (Cerastoderma edule) | 330 - 1000 mg/l, 48 hours |
| | | Green or Europeon shore crab (Carcinus maenas) | 180 mg/l, 48 hours |
| Fish | LC50 | Starfish (Asterias rubens) | 100 - 330 mg/l, 48 hours |

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

| | |
|---|---|
| **Persistence and degradability** | None known. |
| **Bioaccumulative potential** | No data available. |
| **Mobility in soil** | No data available. |
| **Other adverse effects** | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

## 13. Disposal considerations

| | |
|---|---|
| **Disposal instructions** | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations. Neutralize with soda ash/slaked lime and discharge to sewer with lots of water. |
| **Local disposal regulations** | Dispose in accordance with all applicable regulations. |
| **Hazardous waste code** | D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]<br>The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| **Waste from residues / unused products** | 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). |

| | |
|---|---|
| **Contaminated packaging** | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

## 14. Transport information

**DOT**

| | |
|---|---|
| **UN number** | UN2031 |
| **UN proper shipping name** | Nitric acid other than red fuming, with at least 65 percent, but not more than 70 percent nitric acid |
| **Transport hazard class(es)** | |
| **Class** | 8 |
| **Subsidiary risk** | 5.1 |
| **Label(s)** | 8, 5.1 |
| **Packing group** | II |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Special provisions** | A6, B2, B47, B53, IB2, IP15, T8, TP2 |
| **Packaging exceptions** | None |
| **Packaging non bulk** | 158 |
| **Packaging bulk** | 242 |

**IATA**

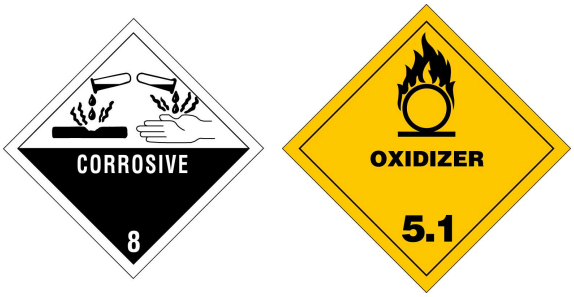
| | |
|---|---|
| **UN number** | UN2031 |
| **UN proper shipping name** | Nitric acid other than red fuming, with >= 65% but <= 70% nitric acid |
| **Transport hazard class(es)** | |
| **Class** | 8 |
| **Subsidiary risk** | 5.1 |
| **Packing group** | II |
| **Environmental hazards** | No. |
| **ERG Code** | 8L |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Other information** | |
| **Passenger and cargo aircraft** | Forbidden |
| **Cargo aircraft only** | Allowed with restrictions. |

**IMDG**

| | |
|---|---|
| **UN number** | UN2031 |
| **UN proper shipping name** | NITRIC ACID other than red fuming, with at least 65% but with not more than 70% nitric acid |
| **Transport hazard class(es)** | |
| **Class** | 8 |
| **Subsidiary risk** | 5.1 |
| **Packing group** | II |
| **Environmental hazards** | |
| **Marine pollutant** | No. |
| **EmS** | F-A, S-Q |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

| | |
|---|---|
| **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | Not established. |

**DOT**



**IATA; IMDG**


## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

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

NITRIC ACID (CAS 7697-37-2) Listed.

**SARA 304 Emergency release notification**

NITRIC ACID (CAS 7697-37-2) 1000 LBS

**US OSHA Hazard Categories (1)**

Not regulated.

**US OSHA Hazard Categories (2)**

Not regulated.

**US OSHA Hazard Categories (3)**

Not regulated.

**US OSHA Hazard Categories (4)**

Not regulated.

**US OSHA Hazard Categories (5)**

Not regulated.

**US OSHA Hazard Categories (6)**

Not regulated.

**US OSHA Hazard Categories (7)**

Not regulated.

**US OSHA Hazard Categories (8)**

Not regulated.

**US OSHA Hazard Categories (9)**

Not regulated.

**US OSHA Hazard Categories (10)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

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

**SARA 302 Extremely hazardous substance**

| Chemical name | CAS number | Reportable quantity (pounds) | Threshold planning quantity (pounds) | Threshold planning quantity, lower value (pounds) | Threshold planning quantity, upper value (pounds) |
|---|---|---|---|---|---|
| NITRIC ACID | 7697-37-2 | 1000 | 1000 | | |

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

| Chemical name | CAS number | % by wt. |
|---|---|---|
| NITRIC ACID | 7697-37-2 | 65 - < 70 |

**Other federal regulations**

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

Not regulated.

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

NITRIC ACID (CAS 7697-37-2)

**Safe Drinking Water Act (SDWA)** 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. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

NITRIC ACID (CAS 7697-37-2)

**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 that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

**Issue date** March-07-2013

**Revision date** May-09-2017

**Version #** 03

**Disclaimer** 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. GFS Chemicals, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

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