

1. Identification

| | | |
|---|--|-----------------------|
| Product identifier | ACETIC ACID SOLUTION, 70% | |
| Other means of identification | | |
| Product code | 2006 | |
| Recommended use | 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 Powell, OH 43065 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 | Not classified. | |
| Health hazards | Acute toxicity, dermal | Category 4 |
| | Skin corrosion/irritation | Category 1B |
| | Serious eye damage/eye irritation | Category 1 |
| | Sensitization, respiratory | Category 1 |
| | Specific target organ toxicity, single exposure | Category 1 (blood, respiratory system) |
| Environmental hazards | Hazardous to the aquatic environment, acute hazard | Category 3 |
| | Hazardous to the aquatic environment, long-term hazard | Category 3 |
| OSHA defined hazards | Not classified. | |

Label elements



| | |
|--------------------------------|--|
| Signal word | Danger |
| Hazard statement | Harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes damage to organs (blood, respiratory system). Harmful to aquatic life. Harmful to aquatic life with long lasting effects. |
| Precautionary statement | |
| Prevention | Wash thoroughly after handling. In case of inadequate ventilation wear respiratory protection. Do not breathe mist or vapor. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment. Do not eat, drink or smoke when using this product. |
| Response | 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. Take off contaminated clothing and wash before reuse. |
| Storage | Store locked up. |
| 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 None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---------------|--------------------------------------|------------|----|
| ACETIC ACID | GLACIAL ACETIC ACID ETHANOIC ACID | 64-19-7 | 70 |
| WATER | | 7732-18-5 | 30 |

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

4. First-aid measures

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| Inhalation | 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. |
| Skin contact | Take off immediately all contaminated clothing. 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. Difficulty in breathing. |
| 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 warm. Keep victim under observation. Symptoms may be delayed. |
| General information | 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. Show this safety data sheet to the doctor in attendance. |

5. Fire-fighting measures

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| Suitable extinguishing media | Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | 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 | 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 | No unusual fire or explosion hazards noted. |

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 out of low areas. 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

This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: 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

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage**Precautions for safe handling**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---------------------------|------|--------------------|
| ACETIC ACID (CAS 64-19-7) | PEL | 25 mg/m3 10 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|---------------------------|------|--------|
| ACETIC ACID (CAS 64-19-7) | STEL | 15 ppm |
| | TWA | 10 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|---------------------------|------|--------------------|
| ACETIC ACID (CAS 64-19-7) | STEL | 37 mg/m3 15 ppm |
| | TWA | 25 mg/m3 10 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. General ventilation normally adequate. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

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

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

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**

Material name: ACETIC ACID SOLUTION, 70%

2006

Version #: 01

Revision date: Issue date: December-15-2015

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| | |
|---|---------------------------------|
| Physical state | Liquid. |
| Form | Liquid. |
| Color | Colorless. |
| Odor | Vinegar |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 234.55 °F (112.53 °C) estimated |
| Flash point | Not available. |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 14.65 hPa estimated |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Miscible. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | 798.8 °F (426 °C) estimated |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Density | 1.07 g/cm3 |
| Percent volatile | 100 % estimated |
| Specific gravity | 1.07 |
| VOC (Weight %) | 70 % estimated |

10. Stability and reactivity

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|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | Irritants. |

11. Toxicological information

Information on likely routes of exposure

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|---|--|
| Inhalation | May cause damage to organs by inhalation. May cause irritation to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful. |
| Skin contact | Causes severe skin burns. Harmful in contact with skin. |
| 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. Difficulty in breathing. |

Information on toxicological effects

Material name: ACETIC ACID SOLUTION, 70%

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Acute toxicity Harmful in contact with skin.

| Product | Species | Test Results |
|---|------------|-----------------------------------|
| ACETIC ACID SOLUTION, 70% (CAS Mixture) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 1514.2858 mg/kg estimated |
| <i>Inhalation</i> | | |
| LC50 | Guinea pig | 7143 mg/l |
| | | 7142.8569 mg/l, 1 Hours estimated |
| | Mouse | 8028.5713 mg/l, 1 Hours estimated |
| | | 7143 mg/l |
| | Rat | 16.2857 mg/l, 4 Hours estimated |
| <i>Oral</i> | | |
| LD50 | Mouse | 7085.7144 mg/kg estimated |
| | Rabbit | 1714.2858 mg/kg estimated |
| | Rat | 4.7286 g/kg estimated |
| <i>Other</i> | | |
| LD50 | Mouse | 750 mg/kg estimated |
| | Rabbit | 1714.2858 mg/kg estimated |

| Components | Species | Test Results |
|---------------------------|------------|--------------------|
| ACETIC ACID (CAS 64-19-7) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 1060 mg/kg |
| <i>Inhalation</i> | | |
| LC50 | Guinea pig | 5000 mg/l, 1 Hours |
| | Mouse | 5620 mg/l, 1 Hours |
| | Rat | 11.4 mg/l, 4 Hours |
| <i>Oral</i> | | |
| LD50 | Mouse | 4960 mg/kg |
| | Rabbit | 1200 mg/kg |
| | Rat | 3.53 g/kg |
| | | 3.31 g/kg |
| <i>Other</i> | | |
| LD50 | Mouse | 525 mg/kg |
| | Rabbit | 1200 mg/kg |

* 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 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

IARC Monographs. Overall Evaluation of Carcinogenicity

Not available.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

| | |
|---|--|
| Specific target organ toxicity - single exposure | Causes damage to organs (blood, respiratory system). |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not available. |
| Chronic effects | Prolonged inhalation may be harmful. |

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

| Product | | Species | Test Results |
|---|------|--------------------------------|-----------------------------------|
| ACETIC ACID SOLUTION, 70% (CAS Mixture) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Daphnia | 402.381 mg/l, 48 hours estimated |
| Fish | LC50 | Fish | 176.0714 mg/l, 96 hours estimated |
| Components | | Species | Test Results |
| ACETIC ACID (CAS 64-19-7) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 65 mg/l, 48 hours |
| Fish | LC50 | Bluegill (Lepomis macrochirus) | 75 mg/l, 96 hours |

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

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

ACETIC ACID -0.17

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. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | 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 | 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

| | |
|-------------------------------------|---|
| UN number | UN2790 |
| UN proper shipping name | Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass |
| Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Label(s) | 8 |
| Packing group | II |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | A3, A6, A7, A10, B2, IB2, T7, TP2 |
| Packaging exceptions | 154 |
| Packaging non bulk | 202 |
| Packaging bulk | 242 |

IATA

| | |
|-------------------------------------|--|
| UN number | UN2790 |
| UN proper shipping name | Acetic acid solution not less than 50% but not more than 80% acid, by weight |
| Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| 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 | Allowed. |
| Cargo aircraft only | Allowed. |

IMDG

| | |
|-------------------------------------|--|
| UN number | UN2790 |
| UN proper shipping name | ACETIC ACID SOLUTION not less than 50% but not more than 80% acid, by mass |
| Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Packing group | II |
| Environmental hazards | |
| Marine pollutant | No. |
| EmS | F-A, S-B |
| 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. All components are on the U.S. EPA TSCA Inventory List. |
| TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) | Not regulated. |
| CERCLA Hazardous Substance List (40 CFR 302.4) | |
| ACETIC ACID (CAS 64-19-7) | Listed. |
| SARA 304 Emergency release notification | |
| Not regulated. | |

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 No
Hazardous chemical

SARA 313 (TRI reporting)

Not regulated.

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)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

ACETIC ACID (CAS 64-19-7)

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

ACETIC ACID (CAS 64-19-7)

US. Pennsylvania Worker and Community Right-to-Know Law

ACETIC ACID (CAS 64-19-7)

US. Rhode Island RTK

ACETIC ACID (CAS 64-19-7)

US. California Proposition 65

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.

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 December-15-2015

Version # 01

Disclaimer

GFS Chemicals 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

Composition / Information on Ingredients: Ingredients

Physical & Chemical Properties: Multiple Properties

Transport Information: Proper Shipping Name/Packing Group

GHS: Classification