

## 1. Identification

<b>Product identifier</b>	<b>SODIUM PERCHLORATE ELECTROLYTE, SATURATED in GLACIAL ACETIC ACID</b>		
<b>Other means of identification</b>			
<b>Product code</b>	5920		
<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>Manufacturer</b>			
<b>Company name</b>	GFS Chemicals, Inc.		
<b>Address</b>	800 Kaderly Drive Columbus, OH 43228 United States		
<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>	Flammable liquids	Category 4
	Oxidizing liquids	Category 2
<b>Health hazards</b>	Acute toxicity, dermal	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1A
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, repeated exposure	Category 1
<b>Environmental hazards</b>	Not classified.	
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		



<b>Signal word</b>	Danger
<b>Hazard statement</b>	Combustible liquid. May intensify fire; oxidizer. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. Harmful if inhaled. Causes damage to organs through prolonged or repeated exposure.
<b>Precautionary statement</b>	
<b>Prevention</b>	Keep away from flames and hot surfaces-No smoking. Do not breathe mist/vapors. Keep/Store away from clothing and other combustible materials. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
<b>Response</b>	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. In case of fire: Use water to extinguish.
<b>Storage</b>	Store in a well-ventilated place. Keep cool. Store locked up.
<b>Disposal</b>	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.

<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	10% of the mixture consists of component(s) of unknown acute dermal toxicity.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
ACETIC ACID	GLACIAL ACETIC ACID ETHANOIC ACID	64-19-7	90
SODIUM PERCHLORATE	PERCHLORIC ACID, SODIUM SALT	7601-89-0	10

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a poison center or doctor/physician if you feel unwell.
<b>Skin contact</b>	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.
<b>Eye contact</b>	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.
<b>Ingestion</b>	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.
<b>Most important symptoms/effects, acute and delayed</b>	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.
<b>Indication of immediate medical attention and special treatment needed</b>	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.
<b>General information</b>	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. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water.
<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>	The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	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.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	May intensify fire; oxidizer. Combustible liquid. Contact with combustible material may cause fire.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. 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.
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**Methods and materials for containment and cleaning up**

Use water spray to reduce vapors or divert vapor cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. 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. Avoid discharge into drains, water courses or onto the ground.

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

Keep away from open flames, hot surfaces and sources of ignition. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials. Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

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

Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Do not store near combustible materials. Keep in an area equipped with sprinklers. 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
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 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.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield.

**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.

**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.

<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. When using do not smoke. 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

<b>Physical state</b>	Liquid.
<b>Form</b>	liquid with precipitate.
<b>Color</b>	Colorless.
<b>Odor</b>	Vinegar-like.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	> 149.0 °F (> 65.0 °C) estimated
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	18.84 hPa estimated
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	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>	1.10 g/cm <sup>3</sup>
<b>Explosive properties</b>	Not explosive.
<b>Flammability class</b>	Combustible IIIA estimated
<b>Oxidizing properties</b>	May intensify fire; oxidizer.
<b>Specific gravity</b>	1.1

## 10. Stability and reactivity

<b>Reactivity</b>	Greatly increases the burning rate of combustible materials.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents. Combustible material. Reducing agents.
<b>Hazardous decomposition products</b>	Hydrogen chloride. Carbon oxides.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Harmful if inhaled.
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Material name: SODIUM PERCHLORATE ELECTROLYTE, SATURATED in GLACIAL ACETIC ACID

5920

Version #: 01

Revision date: Issue date: November-16-2020

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<b>Skin contact</b>	Causes severe skin burns. Harmful in contact with skin.	
<b>Eye contact</b>	Causes serious eye damage.	
<b>Ingestion</b>	Causes digestive tract burns.	
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	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.	
<b>Information on toxicological effects</b>		
<b>Acute toxicity</b>	Harmful if inhaled. Harmful in contact with skin.	
<b>Components</b>	<b>Species</b>	<b>Test Results</b>
ACETIC ACID (CAS 64-19-7)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	1060 mg/kg
<b>Inhalation</b>		
LC50	Guinea pig	5000 mg/l, 1 Hours
	Mouse	5620 mg/l, 1 Hours
	Rat	11.4 mg/l, 4 Hours
<b>Oral</b>		
LD50	Mouse	4960 mg/kg
	Rabbit	1200 mg/kg
	Rat	3.53 g/kg
		3.31 g/kg
<b>Other</b>		
LD50	Mouse	525 mg/kg
	Rabbit	1200 mg/kg
SODIUM PERCHLORATE (CAS 7601-89-0)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	2100 mg/kg
<b>Skin corrosion/irritation</b>	Causes severe skin burns and eye damage.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Due to partial or complete lack of data the classification is not possible.	
<b>Skin sensitization</b>	Due to partial or complete lack of data the classification is not possible.	
<b>Germ cell mutagenicity</b>	Due to partial or complete lack of data the classification is not possible.	
<b>Carcinogenicity</b>	Due to partial or complete lack of data the classification is not possible.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Not listed.		
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>		
Not listed.		
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>		
Not listed.		
<b>Reproductive toxicity</b>	Due to partial or complete lack of data the classification is not possible.	
<b>Specific target organ toxicity - single exposure</b>	Due to partial or complete lack of data the classification is not possible.	
<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.	
<b>Aspiration hazard</b>	Due to partial or complete lack of data the classification is not possible.	
<b>Chronic effects</b>	Prolonged inhalation may be harmful. Causes damage to organs through prolonged or repeated exposure.	

## 12. Ecological information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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Material name: SODIUM PERCHLORATE ELECTROLYTE, SATURATED in GLACIAL ACETIC ACID

Product	Species		Test Results
SODIUM PERCHLORATE ELECTROLYTE, SATURATED in GLACIAL ACETIC ACID			
Aquatic			
Crustacea	EC50	Daphnia	312.963 mg/l, 48 hours estimated
Fish	LC50	Fish	136.9444 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

<b>Persistence and degradability</b>	No data is available on the degradability of any ingredients in the mixture.
<b>Bioaccumulative potential</b>	
<b>Partition coefficient n-octanol / water (log Kow)</b>	
ACETIC ACID	-0.17
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<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>	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

<b>DOT</b>	
<b>UN number</b>	UN3093
<b>UN proper shipping name</b>	Corrosive liquids, oxidizing, n.o.s. (ACETIC ACID RQ = 5556 LBS, SODIUM PERCHLORATE)
<b>Transport hazard class(es)</b>	
Class	8
Subsidiary risk	5.1
Label(s)	8, 5.1
<b>Packing group</b>	II
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	A6, A7, IB2
<b>Packaging exceptions</b>	None
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	243
<b>IATA</b>	
<b>UN number</b>	UN3093
<b>UN proper shipping name</b>	Corrosive liquid, oxidizing, n.o.s. (ACETIC ACID, SODIUM PERCHLORATE)
<b>Transport hazard class(es)</b>	
Class	8
Subsidiary risk	5.1
<b>Packing group</b>	II
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	8X
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**Other information**

<b>Passenger and cargo aircraft</b>	Allowed with restrictions.
<b>Cargo aircraft only</b>	Allowed with restrictions.

**IMDG**

<b>UN number</b>	UN3093
<b>UN proper shipping name</b>	CORROSIVE LIQUID, OXIDIZING, N.O.S. (ACETIC ACID, SODIUM PERCHLORATE)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	5.1
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-Q
<b>Special precautions for user</b>	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.

**Toxic Substances Control Act (TSCA)** All components of the mixture on the TSCA 8(b) inventory are designated "active".

**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.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312** Yes  
**Hazardous chemical**

**Classified hazard categories**

Flammable (gases, aerosols, liquids, or solids)  
Oxidizer (liquid, solid, or gas)  
Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation  
Specific target organ toxicity (single or repeated exposure)

**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)**

Contains component(s) regulated under the Safe Drinking Water Act.

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

ACETIC ACID (CAS 64-19-7)

High priority

**US state regulations****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. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**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
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	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**

November-16-2020

**Version #**

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**Disclaimer**

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