

1. Identification

Product identifier	SODIUM PERCHLORATE, ANHYDROUS, REAGENT (ACS)	
Other means of identification		
Product code	91	
Synonym(s)	PERCHLORIC ACID, SODIUM SALT	
Recommended use	professional, scientific and technical activities: scientific research and development	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Company name	GFS Chemicals, Inc.	
Address	P.O. Box 245 Powell OH 43065 US	
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 solids	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2 (blood)
OSHA hazard(s)	Not classified.	

Label elements



Signal word	Danger
Hazard statement	May cause fire or explosion; strong oxidizer. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause damage to organs (blood) through prolonged or repeated exposure.
Precautionary statement	
Prevention	Keep away from heat. Use only outdoors or in a well-ventilated area. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/eye protection/face protection. Keep away from clothing and other combustible materials.
Response	Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. 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. If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media for extinction. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container to an approved waste disposal plant.
Hazard(s) not otherwise classified (HNOC)	Not classified.

3. Composition/information on ingredients

Substances

Hazardous components Chemical name	Common name and synonyms	CAS number	%
SODIUM PERCHLORATE	PERCHLORIC ACID, SODIUM SALT	7601-89-0	100

*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 POISON CENTER or doctor/physician if you feel unwell.
Skin contact	IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. If skin irritation occurs: Get medical advice/attention.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Most important symptoms/effects, acute and delayed	Irritation of eyes and mucous membranes. Irritant effects. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water. Water spray.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	May cause fire or explosion; strong oxidizer. Strong oxidizer - contact with other material may cause fire. May ignite combustibles (wood, paper, oil, clothing, etc.).
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Keep materials which can burn away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Avoid inhalation of dust from the spilled material. Avoid excessive skin contact with the spilled material. Wear appropriate personal protective equipment.
Methods and materials for containment and cleaning up	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Prevent entry into waterways, sewers, basements or confined areas. Stop leak if you can do so without risk. Clean contaminated surface thoroughly. Sweep up or gather material and place in appropriate container for disposal. Thoroughly wash the area with water after a spill or leak clean-up. Avoid dust formation. DO NOT use combustible materials such as sawdust. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations. For waste disposal, see section 13 of the MSDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Take any precaution to avoid mixing with combustibles. Keep away from heat. Avoid breathing dusts from this material. Do not taste or swallow. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Do not store around flammable or combustible materials. Keep away from heat. Keep container tightly closed. Do not store near combustible materials. Keep out of the reach of children. Protect from moisture. Store in a cool, dry place out of direct sunlight.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	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	Wear eye/face protection. Eye wash fountains are required.
Skin protection	
Hand protection	Wear protective gloves.
Other	Avoid contact with the skin. Wear suitable protective clothing. Wear fire/flame resistant/retardant clothing. Wear protective gloves.
Respiratory protection	Respirator must be worn if exposed to dust. In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Not available.
General hygiene considerations	When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. 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	Crystalline. Powder.
Physical state	Solid.
Form	Solid.
Color	White.
Odor	Odorless.
Odor threshold	Not available.
pH	6 - 8 (5% solution)
Melting point/freezing point	896 °F (480 °C)
Initial boiling point and boiling range	Not available.
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)	1700 g/l @ 0 C
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 899.6 °F (> 482 °C) When heated to decomp, emits toxic fumes of hydrogen chloride and Na2O.

Viscosity Not available.

Other information

Density 2.52 g/cm³
Molecular formula NaClO₄
Molecular weight 122.44 g/mol
Specific gravity 2.5203

10. Stability and reactivity

Reactivity Contact with combustibles.
Chemical stability Risk of explosion. Material is stable under normal conditions.
Possibility of hazardous reactions Hazardous polymerization does not occur.
Conditions to avoid Excessive heat.
Incompatible materials Organic materials, Flammable materials, Combustible material.
Hazardous decomposition products Hydrogen chloride.

11. Toxicological information

Information on likely routes of exposure

Ingestion Harmful if swallowed.
Inhalation May cause irritation to the respiratory system.
Skin contact Not available.
Eye contact Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Irritant effects.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	Species	Test Results
SODIUM PERCHLORATE (CAS 7601-89-0)		
Acute <i>Oral</i> LD50	Rat	2100 mg/kg

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

Skin corrosion/irritation Causes skin irritation.
Serious eye damage/eye irritation Causes serious eye irritation.
Respiratory sensitization Due to lack of data the classification is not possible.
Skin sensitization Due to lack of data the classification is not possible.
Germ cell mutagenicity Due to lack of data the classification is not possible.
Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity Due to lack of data the classification is not possible.
Specific target organ toxicity - single exposure Respiratory tract irritation.
Specific target organ toxicity - repeated exposure May cause damage to organs (blood) through prolonged or repeated exposure.
Aspiration hazard Due to lack of data the classification is not possible.
Chronic effects May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity This material is not expected to be harmful to aquatic life.
Persistence and degradability No data is available on the degradability of this product.
Bioaccumulative potential Not available.
Mobility in soil Not available.
Other adverse effects Not available.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. 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	Not available.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 F
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	UN1502
UN proper shipping name	Sodium perchlorate
Transport hazard class(es)	5.1
Subsidiary class(es)	Not available.
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Labels required	5.1
Special provisions	IB6, IP2, T3, TP33
Packaging exceptions	152
Packaging non bulk	212
Packaging bulk	242

IATA

UN number	UN1502
UN proper shipping name	Sodium perchlorate
Transport hazard class(es)	5.1
Subsidiary class(es)	-
Packaging group	II
Environmental hazards	No
Labels required	Not available.
ERG Code	5L
Special precautions for user	Not available.

IMDG

UN number	UN1502
UN proper shipping name	SODIUM PERCHLORATE
Transport hazard class(es)	5.1
Subsidiary class(es)	-
Packaging group	II
Environmental hazards	
Marine pollutant	No
Labels required	Not available.
EmS	F-H, S-Q
Special precautions for user	Not available.

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

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.
CERCLA/SARA Hazardous Substances - Not applicable.

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)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA) Contaminate candidate list
Monitoring

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

Not listed.

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

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

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

SODIUM PERCHLORATE (CAS 7601-89-0)

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

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

SODIUM PERCHLORATE (CAS 7601-89-0)

US. Rhode Island RTK

SODIUM PERCHLORATE (CAS 7601-89-0)

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-10-2013**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: Synonyms
 Hazards Identification: US Hazardous
 Composition / Information on Ingredients: Ingredients
 Physical & Chemical Properties: Multiple Properties
 Transport Information: Proper Shipping Name/Packing Group
 Regulatory Information: United States
 HazReg Data: North America