Material Safety Data Sheet
Sodium perchlorate

ACC# 94080

Section 1 - Chemical Product and Company Identification

MSDS Name: Sodium perchlorate
Catalog Numbers: AC197120000, AC197120010, AC197120050, AC197122500, AC342180000, AC342180010 AC342180010, AC342182500, AC9523648, AC9527946, AC19712
Synonyms: Perchloric acid, sodium salt.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7601-89-0	Sodium perchlorate	>98	231-511-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white solid.
Danger! Explosive when mixed with combustible material. Strong oxidizer. Contact with other material may cause a fire. Can form shock sensitive mixtures with finely divided metals, strong reducing agents and sulfur. High temperatures can cause violent decomposition or explosion. Causes severe eye irritation.
Target Organs: Eyes, thyroid.

Potential Health Effects

Eye: Causes severe eye irritation. Reversible corneal opacity and severe irritation was observed in rabbits following a single application of 0.1 gram of technical sodium perchlorate. The irritation persisted in 5/6 animals at 7 days post-exposure.
Skin: May cause skin irritation. Not expected to cause an allergic skin reaction.
Ingestion: May cause irritation of the digestive tract. Some references indicate that perchlorates can cause reversible methemoglobinemia (conversion of oxygen-carrying components of the blood to an inactive form). The earliest symptoms of poisoning are headache and a bluish coloration of the lips and skin (cyanosis). No reports of this effect were located.
Inhalation: May cause respiratory tract irritation.
Chronic: May interfere with iodine uptake of the thyroid gland and enlarge it. In animal studies, a related chemical, potassium perchlorate, caused fetal thyroid effects at doses that also caused maternal toxicity.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse. Destroy contaminated shoes.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. Do NOT use mouth-to-mouth resuscitation.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Some oxidizers may react explosively with hydrocarbons(fuel). May accelerate burning if involved in a fire.
Extinguishing Media: Use water only! May require flooding with water in order to eliminate hazardous reactions since the materials generate their own oxygen. For large fires flood fire with water from a distance. Carbon dioxide may provide sufficient cooling to extinguish small fires, but dry chemical powder is ineffective because it cannot smother a self-sustaining fire.
Flash Point: 400 deg C (752.00 deg F)
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 2; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Do not use combustible materials such as paper towels to clean up spill.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Keep from contact with clothing and other combustible materials. Avoid breathing dust. Destroy contaminated leather clothing. Inform laundry personnel of contaminant's hazards. Do not take working clothes home.
Storage: Do not store near combustible materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from reducing agents. Avoid storage on wood floors.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium perchlorate	none listed	none listed	none listed

OSHA Vacated PELs: Sodium perchlorate: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate gloves to prevent skin exposure.
Clothing: Wear appropriate clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Appearance: white
Odor: Odorless
pH: 6-8 (5% aq soln)
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point:482 deg C (dec)
Decomposition Temperature:482 deg C
Solubility: Soluble.
Specific Gravity/Density:2.5
Molecular Formula: ClNaO4
Molecular Weight:122.44

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Deliquescent (tending to absorb atmospheric water vapor and become liquid).
Conditions to Avoid: Dust generation, excess heat, contamination.
Incompatibilities with Other Materials: Reducing agents, strong acids, amines, ammonia, finely powdered metals, sulfur, hydrocarbons, combustible materials.
Hazardous Decomposition Products: Hydrogen chloride, chlorine, oxygen, sodium oxide, chlorine dioxide, which may be spontaneously explosive.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 7601-89-0: SC9800000
LD50/LC50:
CAS# 7601-89-0:
Oral, rat: LD50 = 2100 mg/kg;
.

Carcinogenicity:
CAS# 7601-89-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: Administration of potassium perchlorate KClO4 experimentally to pregnant guinea pigs, rabbits, & rats has been reported to result in enlarged fetal thyroids, consistent with transplacental passage of perchlorate. Administration of up to 1% KClO4 indrinking water during early pregnancy did not interfere with blastocyst implantation or pregnancy success in rats. Detailed morphologic evaluation of offspring was not reported. In both a 2-generation reproductive tox study in rats & a developmental toxstudy in rabbits, respective KClO4 doses up to 30 & 100 mg/kg/day were not found to have adverse effects on reproduction or development.
Reproductive Effects: No information found
Mutagenicity: See actual entry in RTECS for complete information.
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	SODIUM PERCHLORATE	SODIUM PERCHLORATE
Hazard Class:	5.1	5.1
UN Number:	UN1502	UN1502
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7601-89-0 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 7601-89-0: immediate, fire, reactive.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 7601-89-0 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
XN O
Risk Phrases:
R 22 Harmful if swallowed.
R 9 Explosive when mixed with combustible material.

.

Safety Phrases:

S 13 Keep away from food, drink and animal feeding stuffs.
S 22 Do not breathe dust.
S 27 Take off immediately all contaminated clothing.

WGK (Water Danger/Protection)

CAS# 7601-89-0: 1

Canada - DSL/NDSL

CAS# 7601-89-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of C, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997
Revision #3 Date: 6/30/2004