



Sodium Persulfate

SECTION 1: PRODUCT & COMPANY IDENTIFICATION

Product Identifier

Product Name	SODIUM PERSULFATE
Chemical Name	Sodium Persulfate
Synonyms	NA
Trade Names	Sodium Persulfate
Product Use	NA

Supplier Details

Name	Alchatek
Address	4508 Bibb Blvd Tucker, GA 30084

Telephone (404) 618-0438

Emergency Phone Numbers

Call CHEMTREC Day or Night
1-800-424-9300
+1 703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

Hazard Identification:

This product is classified as a hazardous substance and as dangerous goods according to the classification criteria of [NOHSC: 1088 (2004)] and ADG Code (Australia).

DANGER! MAY INTENSIFY FIRE; OXIDIZER. HARMFUL IF SWALLOWED. CAUSES SKIN IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. MAY CAUSE RESPIRATORY IRRITATION.

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Hazard Statements (H):	H272 – May intensify fire; oxidizer. H302 – Harmful if swallowed. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 - May cause respiratory irritation.
Precautionary Statements (P):	P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection. P264 – Wash skin and exposed skin areas with soap and warm water thoroughly after handling. P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P337+P313 - If eye irritation persists: Get medical advice/attention. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P220 - Keep/Store away from clothing/combustible materials. P221 - Take any precaution to avoid mixing with combustibles. P261 - Avoid breathing dust/vapours. P270 - Do not eat, drink or smoke when using this product. P271 - Use only outdoors or in a well-ventilated area. P285 In case of inadequate ventilation wear respiratory protection. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P501 - Dispose of contents/ container to an approved waste disposal plant.



Effects of Exposure:	
Eyes:	Severe or permanent eye damage.
Skin:	Harmful if absorbed through skin. Causes skin irritation.
Ingestion:	Harmful if swallowed.
Inhalation:	Harmful by inhalation. May cause severe irritation or burns in respiratory tract and mucous membranes. Possible lung damage.
Symptoms of Overexposure:	
Eyes:	Redness, burning, irritation, and swelling around eyes
Skin:	Redness, burning, itching, rash, blistering of skin.
Ingestion:	Nausea, vomiting, severe abdominal pain.
Inhalation:	Coughing, wheezing, swelling of throat, irritation in mucous membranes, difficulty breathing.

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Acute Health Effects: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Harmful if swallowed. May be harmful if absorbed through skin. Causes skin irritation.

Chronic Health Effects: May cause allergic respiratory and skin reactions.

Target Organs: Eyes, skin, respiratory system.

SECTION 3: COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m ³)								
					ACGIH			NOHSC			OSHA		
					ppm			ppm			ppm		
					TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	TLV	STEL	IDLH	OTHER
SODIUM PERSULFATE	7775-27-1	SE0535000	231-892-1	60-100	0.1	NE	NF	NF	NF	NE	NE	NE	
Ox. Sol. 3; Acute Tox. 4; Skin Irrit. 2; Skin Sens. 1; Eye Irrit. 2; Resp. Sens. 1; STOT SE 3; H272, H302, H315, H317, H319, H334, H335													

NA = Not Available; ND = Not Determined; NE = Not Established; NF = Not Found; C = Ceiling Limit; See Section 16 for Additional Definitions of Terms Used
 NOTE: All WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-2010 format.

SECTION 4: FIRST AID MEASURES

First Aid:

Ingestion: DO NOT INDUCE VOMITING. Contact ChemTrec at +1 (800) 424-9300 or the nearest Poison Control Center or local emergency telephone number for assistance and instructions. Seek immediate medical attention. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.

Eyes: If product gets in the eyes, flush eyes thoroughly with copious amounts of water for at least 15 minutes, holding eyelid(s) open to ensure complete flushing. If the eyes or face become swollen during or following use, consult a physician or emergency room immediately.

Skin: Remove contaminated clothing and wash affected areas with soap and water. If discomfort persists and/or the skin reaction worsens, contact a physician immediately. Do not wear contaminated clothing until after it has been properly cleaned.

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Inhalation: Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial respiration. Seek immediate medical attention.

Medical Conditions Aggravated by Exposure: Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin, and respiratory system) or impaired kidney function may be more susceptible to the effects of this substance.

HEALTH			2
FLAMMABILITY			0
PHYSICAL HAZARDS			1
PROTECTIVE EQUIPMENT			F
EYES	SKIN	LUNGS	

SECTION 5: FIREFIGHTING MEASURES

Fire & Explosion Hazards: Non-flammable. May react with metals to release hydrogen gas, which can form explosive mixtures with air. May intensify fire; oxidizer.

Extinguishing Methods: Use fire-extinguishing media appropriate for surrounding materials.

Firefighting Procedures: As with any fire, firefighters should wear appropriate protective equipment including a MSHA/NIOSH approved or equivalent self-contained breathing apparatus (SCBA) and protective clothing. Fight fires as for surrounding materials. Hazardous decomposition products may be released. Thermal degradation may produce oxides of carbon, phosphorous, selenium and/or nitrogen, hydrocarbons and/or derivatives. Fire should be fought from a safe distance. Keep containers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personal. Fight fire upwind. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway.



SECTION 6: ACCIDENTAL RELEASE MEASURES

Spills: Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment (PPE). Use safety glasses or safety goggles and face shield; use gloves and other protective clothing (e.g., apron, boots, etc.) to prevent skin contact.

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Small Spills:	Wear appropriate protective equipment including gloves and protective eyewear. Use a non-combustible, inert material such as vermiculite or sand to soak up the product and place into a container for later disposal.
Large Spills:	Keep incompatible materials (e.g., organics such as oil) away from spill. Stay upwind and away from spill or release. Isolate immediate hazard area and keep unauthorized personnel out of area. Stop spill or release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Recover as much free liquid as possible and collect in acid-resistant container. Use absorbent to pick up residue. Avoid discharging liquid directly into a sewer or surface waters.

SECTION 7: HANDLING & STORAGE INFORMATION

Work & Hygiene Practices:	Avoid breathing mists or spray. Avoid eye and skin contact. Wear protective equipment when handling product. Keep out of the reach of children. Do not eat, drink or smoke when handling this product. Wash thoroughly after handling. Do not expose to heat and flame. Use only in ventilated areas. Keep out of the reach of children. Immediately clean-up and decontaminate any spills or residues.
Storage & Handling:	Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans) away from heat and direct sunlight. Store in acid-resistant containers. Keep containers covered when not in use. Avoid temperatures above 40°C (120°F). Keep away from incompatible substances (see Section 10). Protect containers from physical damage.
Special Precautions:	Empty containers may retain hazardous product residues.

SECTION 8: EXPOSURE CONTROLS & PERSONAL PROTECTION

Ventilation & Engineering Controls:	Use local or general exhaust ventilation to effectively remove and prevent buildup of vapors or mist generated from the handling of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station). Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
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Respiratory Protection:



Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye Protection:



Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand Protection:



Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection:



A chemical resistant apron and/or protective clothing are recommended when handling or using this product. Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance:	White powder
Odor:	Slightly pungent odor
Odor Threshold:	NA
pH:	2.5 - 4.0
Melting Point/Freezing Point:	292 °C
Initial Boiling Point/Boiling Range:	NA
Flashpoint:	NA
Upper/Lower Flammability Limits:	NA
Vapor Pressure:	NA

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Vapor Density:	NA
Relative Density:	2.549 g/cm ³
Solubility:	238.1 g / L H ₂ O @ 20 °C (68 °F)
Partition Coefficient (log P _{ow}):	NA
Autoignition Temperature:	NA
Decomposition Temperature:	NA
Viscosity:	NA
Other Information:	NA

SECTION 10: STABILITY & REACTIVITY

Stability:	Stable under recommended storage conditions.
Hazardous Decomposition Products:	Reaction with organics and strong reducing agents may cause fire. Hazardous decomposition products formed during fire may include sulfur oxides (SO _x).
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Excessive moisture, shock, friction.
Incompatible Substances:	Organic materials, strong reducing agents, powdered metals, strong bases, alcohols, phosphorous, anhydrides, halogens, acids, chlorates, and perchlorates.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Entry:	
Inhalation:	YES
Absorption:	YES
Ingestion:	YES
Toxicity Data:	Sodium Persulfate: LD ₅₀ (oral, rat) = 895 mg/kg; LC ₅₀ (inh-4h, rat) > 47.9 mg/kg
Acute Toxicity:	See Section 2.4
Chronic Toxicity:	See Section 2.5
Suspected Carcinogen:	NA

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Reproductive Toxicity:	This product is not reported to cause reproductive toxicity in humans.
Mutagenicity:	This product is not reported to produce mutagenic effects in humans.
Embryotoxicity:	This product is not reported to produce embryotoxic effects in humans.
Teratogenicity:	This product is not reported to cause teratogenic effects in humans.
Reproductive Toxicity:	This product is not reported to cause reproductive effects in humans.
Irritancy of Product:	See Section 2.3. May cause an allergic skin and respiratory reaction (OECD Test Guideline 406).
Biological Exposure Indices:	NE
Physician Recommendations:	Treat symptomatically.

SECTION 12: ECOLOGICAL INFORMATION

Environmental Stability:	No data available.
Effects on Plants & Animals:	No data available.
Effects on Aquatic Life:	Harmful to aquatic life. <u>Sodium Persulfate</u> : LC ₅₀ (Oncorhynchus mykiss (rainbow trout), 96h) = 163 mg/L; EC ₅₀ (Daphnia magna, 48h) = 133 mg/L


SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal:	Review current local, state and federal laws, codes, statutes and regulations to determine current status and appropriate disposal method for the ingredients listed in Section 2. Any disposal practice must be in compliance with local, state, and federal laws and regulations. Contact the appropriate agency for specific information. Treatment, transport, storage and disposal of hazardous waste must be provided by a licensed facility or waste hauler. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
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Special Considerations: U.S. EPA Hazardous Waste – Characteristic - Reactivity (D003)

SECTION 14: TRANSPORTATION INFORMATION

	ID NUMBER	PROPER SHIPPING NAME	HAZARD CLASS	PACKING GROUP	
49 CFR (GND):	UN1505	SODIUM PERSULFATE	5.1	III	
IATA (AIR):	UN1505	SODIUM PERSULFATE	5.1	III	
IMDG (OCN):	UN1505	SODIUM PERSULFATE	5.1	III	
TDGR (Canadian GND):	UN1505	SODIUM PERSULFATE	5.1	III	
ADR/RID (EU):	UN1505	SODIUM PERSULFATE	5.1	III	
SCT (MEXICO):	UN1505	PERSULFATO DE SODIO	5.1	III	
ADGR (AUS):	UN1505	SODIUM PERSULFATE	5.1	III	

SECTION 15: REGULATORY INFORMATION

SARA Reporting Requirements:	This product does not contain any substances subject to SARA Title III, section 313 reporting requirements.
SARA Threshold Planning Quantity:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
TSCA Inventory Status:	The components of this product are listed on the TSCA Inventory.
CERCLA Reportable Quantity (RQ):	NA
Other Federal Requirements:	NA
Other Canadian Regulations:	This product has been classified according to the hazard criteria of the Controlled Product Regulations (CPR) and the Safety Data Sheet contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS Class C, D2B (Oxidizing Material, Other Toxic Effects).



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State Regulatory Information:	<u>Sodium Persulfate</u> is found on the following state criteria lists: New Jersey Right-to-Know List (NJ), and Pennsylvania Right-to-Know List (PA). No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI).
Other Requirements:	The primary components of this product are listed in Annex I of EU Directive 67/548/EEC.
Sodium Persulfate:	Oxidizing, Harmful, Irritant (O, Xn, Xi).
Risk Phrases (R):	8-22-36/37/38-42/43 – Contact with combustible material may cause fire. Harmful if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and by skin contact.
Safety Phrases (S):	S(2-)22-24-26-37 - Keep locked up and out of the reach of children. Keep container tightly closed and in a well-ventilated place. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash with plenty of soap and warm water. If swallowed, seek medical advice immediately and show this container or label.



SECTION 16: OTHER INFORMATION

Other Information:	DANGER! May intensify fire; oxidizer. Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.
Terms & Definitions:	See last page of this Safety Data Sheet.

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DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these that are commonly used include the following:

GENERAL INFORMATION:

CAS No. Chemical Abstract Service Number

EXPOSURE LIMITS IN AIR:

ACGIH American Conference on Governmental Industrial Hygienists
 TLV Threshold Limit Value
 OSHA U.S. Occupational Safety and Health Administration
 PEL Permissible Exposure Limit
 IDLH Immediately Dangerous to Life and Health

FIRST AID MEASURES:

CPR Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.






















HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS





















HEALTH, FLAMMABILITY & REACTIVITY RATINGS:













0 Minimal Hazard
 1 Slight Hazard
 2 Moderate Hazard
 3 Severe Hazard
 4 Extreme Hazard

HEALTH
FLAMMABILITY
PHYSICAL HAZARDS
PERSONAL PROTECTION

PERSONAL PROTECTION RATINGS:

A	
B	 
C	  
D	   
E	    
F	     

G	  
H	   
I	  
J	    
K	    
X	Consult your supervisor or SOPs for special handling directions.

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OTHER STANDARD ABBREVIATIONS:

NA	Not Available
NR	No Results
NE	Not Established
ND	Not Determined
ML	Maximum Limit
SCBA	Self-Contained Breathing Apparatus

NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:

Autoignition Temperature	Minimum temperature required to initiate combustion in air with no other source of ignition
LEL	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
UEL	Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source

HAZARD RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard
ACD	Acidic
ALK	Alkaline
COR	Corrosive
W	Use No Water
OX	Oxidizer
TREFOIL	Radioactive



TOXICOLOGICAL INFORMATION:

LD ₅₀	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
LC ₅₀	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts









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TD ₁₀	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD ₁₀ , LD ₁₀ , & LD ₀ or TC, TC ₀ , LC ₁₀ , & LC ₀	Lowest dose (or concentration) to cause lethal or toxic effects
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances
BCF	Bioconcentration Factor
TL _m	Median threshold limit
log K _{ow} or log K _{oc}	Coefficient of Oil/Water Distribution









REGULATORY INFORMATION:

WHMIS	Canadian Workplace Hazardous Material Information System
DOT	U.S. Department of Transportation
TC	Transport Canada
EPA	U.S. Environmental Protection Agency
DSL	Canadian Domestic Substance List
NDSL	Canadian Non-Domestic Substance List
PSL	Canadian Priority Substances List
TSCA	U.S. Toxic Substance Control Act
EU	European Union (European Union Directive 67/548/EEC)
WGK	Wassergefährdungsklassen (German Water Hazard Class)

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:










							
Class A	Class B	Class C	Class D1	Class D2	Class D3	Class E	Class F
Compressed	Flammable	Oxidizing	Toxic	Irritation	Infectious	Corrosive	Reactive

EC (67/548/EEC) INFORMATION:

							
C	E	F	N	O	T	Xi	Xn
Corrosive	Explosive	Flammable	Harmful	Oxidizing	Toxic	Irritant	Harmful

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CLP/GHS (1272/2008/EC) PICTOGRAMS:

								
GHS01	GHS02	GHS03	GHS04	GHS05	GHS06	GHS07	GHS08	GHS09
Explosive	Flammable	Oxidizer	Pressurized	Corrosive	Toxic	Harmful Irritating	Health Hazard	Environment

Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall Alchatek be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if Alchatek has been advised of the possibility of such damages.