

Ammonium Persulfate

SECTION 1. IDENTIFICATION

Product Identifier	Ammonium Persulfate
Other Means of Identification	Ammonium peroxydisulfate, Diammonium proxydisulfate
Product Code	AM6010, AM6020
Product Family	Inorganic ammonium compound, peroxidisulphuric acid salt, Diammonium salt, Persulfate
Recommended Use	Polymerization initiator etchant and cleaner in printed circuit board manufacturing.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours CHEMTREC, 800-424-9300, 24 Hours
SDS No.	0110

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Oxidizing solid - Category 3; Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 5; Acute toxicity (Inhalation) - Category 4

Label Elements



Signal Word:
Warning

Hazard Statement(s):

Fire or projection hazard.
Heating may cause a fire or explosion.
May cause or intensify fire; oxidizer.
Harmful if swallowed or if inhaled.
May cause respiratory irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statement(s):

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not handle until all safety precautions have been read and understood.
Keep/Store away from clothing//combustible materials.
Do not allow contact with water.
Keep only in original packaging.

Keep cool. Protect from sunlight.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers
Ammonium persulfate	7727-54-0	100	Ammonium peroxydisulfate, Diammonium proxydisulphate

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a Poison Centre or doctor. Specific treatment is required.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water. Immediately call a Poison Centre or doctor.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If inhaled: can cause severe irritation of the nose and throat. Respiratory sensitizer. May cause asthma or an asthma-like reaction in some people.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Use flooding quantities of water spray or fog.

Unsuitable Extinguishing Media

DO NOT use carbon dioxide, or other agents that smother the flames.

Specific Hazards Arising from the Product

Oxidizer. Releases oxygen to create an oxygen-rich atmosphere. Will cause combustible materials to ignite more readily. Closed containers may rupture violently when heated releasing contents. Forms toxic chemicals on contact with water.

Corrosive sulfur oxides; corrosive, oxidizing nitrogen oxides.

Special Protective Equipment and Precautions for Fire-fighters

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Evacuate area. Fight fire from a protected, explosion-resistant location or maximum distance possible. Approach fire from upwind to avoid hazardous vapours or gases. Oxidizer. Prevent contact with flammable and combustible materials. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Emergency responders: use the personal protective equipment recommended in Section 8 of this safety data sheet. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. May collect in hazardous amounts, at ceilings and at the top of confined spaces, if ventilation is not sufficient. Before entry, especially into confined areas, check atmosphere with an appropriate monitor. Evacuate downwind locations. Increase ventilation to area or move leaking container to a well-ventilated and secure area.

Environmental Precautions

If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas. Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Contain and soak up spill with absorbent that does not react with spilled product. Contaminated absorbent poses the same hazard as the spilled product. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Place used absorbent into suitable, covered, labelled containers for disposal. Review Section 13 (Disposal Considerations) of this safety data sheet.

Other Information

Contact supplier, local fire and emergency services for help.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Only use where there is adequate ventilation. Prevent accidental contact with incompatible chemicals. Label container with date received, date opened and disposal date. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Store in the original, labelled, shipping container. Label container with date received, date opened and disposal date. Use a first-in, first-out inventory system.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Ammonium persulfate	0.1 mg/m3		Not established			

Appropriate Engineering Controls

General ventilation is usually adequate. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Do not allow product to accumulate in the air in work or storage areas, or in confined spaces.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: neoprene rubber.

No specific guidelines are available. Contact chemical manufacturer/supplier for advice.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	White crystals.
Odour	Odourless
Odour Threshold	Not available
pH	~ 3.0
Melting Point/Freezing Point	120 °C (248 °F) (melting)
Initial Boiling Point/Range	Not available
Flash Point	Not available
Evaporation Rate	Not available
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not applicable
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	1.98 at 20 °C
Solubility	Soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	>= 120 °C (248 °F)
Viscosity	Not applicable (kinematic); Not applicable (dynamic)
Other Information	
Physical State	Solid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Strong oxidizer.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Decomposes in the presence of water or humidity, heat. May cause a fire or explosion.

Conditions to Avoid

Heat. Water, moisture or humidity.

Incompatible Materials

Strong acids (e.g. hydrochloric acid), reducing agents (e.g. hydroquinone), inorganic acids (e.g. hydrofluoric acid), oxidizing agents (e.g. peroxides), organic acids (e.g. acetic acid), ketones (e.g. acetone), nitriles (e.g. butyronitrile), unsaturated hydrocarbons (e.g. turpentine), monomers (e.g. 1,3-butadiene), halogenated compounds (e.g. trichloroethylene), aromatic hydrocarbons (e.g. toluene), metals (e.g. aluminum), glycols (e.g. ethylene glycol), glycol ethers (e.g. 2-butoxyethanol), amines (e.g. triethylamine), epoxides (e.g. ethylene oxide), alkanolamines (e.g. triethanolamine), aldehydes (e.g. acetaldehyde), esters (e.g. amyl acetate), ethers (e.g. diethyl ether).

Hazardous Decomposition Products

Oxygen (a strong oxidizer); corrosive sulfur oxides; corrosive, oxidizing nitrogen oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Ammonium persulfate	130 mg/m3 (rat) (4-hour exposure)	495 mg/kg (female rat)	> 10000 mg/kg

Skin Corrosion/Irritation

Not a skin irritant.

Serious Eye Damage/Irritation

Animal tests show mild irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause nose and throat irritation, lung injury. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

Skin Absorption

No information was located.

Ingestion

May be harmful.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

If inhaled: irritation of the respiratory system. May cause respiratory tract injury.

Respiratory and/or Skin Sensitization

Respiratory sensitizer. Human experience shows severe asthma or asthma-like symptoms (respiratory sensitization) in a substantial proportion of people exposed at work. Skin sensitizer. Human experience shows allergic skin reactions (skin sensitization) in a substantial proportion of people exposed at work.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Ammonium persulfate	Not Listed	Not Listed		

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	1444	AMMONIUM PERSULPHATE	5.1	III

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL or are not required to be listed.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.

SECTION 16. OTHER INFORMATION

NFPA Rating	Health - 1	Flammability - 0	Instability - 1
	Special Hazard - Oxidizing	Based on	Ammonium persulfate

SDS Prepared By Alphachem Ltd.

Phone No. (905)-821-2995

Date of Preparation September 30, 2015

Date of Last Revision December 04, 2015

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