

**Section 1: Identification**

**MANUFACTURER:** PACE Technologies  
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**INFORMATION PHONE:** 520-882-6598

**EMERGENCY PHONE:** CHEMTREC 800-424-9300 (US) Day or night  
 International call collect CHEMTREC 202-483-7616  
 Customer No. 16568

**TRADE NAME:** Ammonium persulfate solutions

**CHEMICAL FAMILY:** Ammonium persulfate solutions: CAS Number – 7727-54-0

**Section 2: Hazard(s) Identification**

<p><b>GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)</b></p>	<p>Oxidizing solids (Category 3), H272          Acute toxicity, Oral (Category 4), H302          Acute toxicity, Dermal (Category 4), H312          Skin irritation (Category 2), H315          Eye irritation (Category 2A), H319          Respiratory sensitization (Category 1), H334          Skin sensitization (Category 1), H317          Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335          Acute aquatic toxicity (Category 3), H402          Chronic aquatic toxicity (Category 3), H412</p>
<p><b>PICTOGRAM(s):</b></p>	
<p><b>SIGNAL WORD:</b></p>	<p>Danger</p>
<p><b>HAZARD STATEMENTS:</b></p>	<p><b>Hazard Statement(s):</b>          H272 - May intensify fire; oxidizer          H302 - Harmful if swallowed          H312- Harmful in contact with skin          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          H412- Harmful to aquatic life with long lasting effects</p>

**PRECAUTIONARY STATEMENTS:**

**Precautionary Statement(s):**

**Preventions:**

P210- 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/fume/gas/mist/vapors/spray.  
P264- Wash skin thoroughly after handling.  
P271-Use only outdoors or in a well-ventilated area.  
P273- Avoid release to the environment.  
P280- Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

P301+312- IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.  
P302+352- IF ON SKIN: wash with plenty of soap and water.  
P304+P340-IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.  
P305+P351+P338- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312-Call a POISON CENTER or doctor/physician if you feel unwell.  
P321- Specific treatment (see Section 4 SDS).  
P322- Specific measures (see Section 4 SDS).  
P330- Rinse mouth.  
P332+P313-IF SKIN irritation occurs: Get medical advice/attention.  
P337-P313-IF eye irritation persists: Get medical advice/attention.  
P362-Take off contaminated clothing and wash before reuse.P270- Do not eat, drink or smoke when using this product.  
P363- Wash contaminated clothing before reuse.  
P370+P378- In case of fire: Do Not Use water for extinction.  
P391- Collect spillage. Hazardous to the aquatic environment.

**Storage:**

P403+P233- Store in a well-ventilated place. Keep container tightly closed.  
P405- Store locked up.

**Disposal:**

P501- Dispose of contents/container to Federal, State and Local Regulations.

**Emergency Overview**

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**DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE BURNS TO SKIN AND EYES. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION.**

**SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)**

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Health Rating: 2 - Moderate (Life)  
Flammability Rating: 0 - None  
Reactivity Rating: 3 – Severe (Oxidizer)

Contact Rating: 3 - Severe (Oxidizer)  
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;  
PROPER GLOVES  
Storage Color Code: Yellow (Reactive)

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### Potential Health Effects

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#### Inhalation:

May irritate the mucous membranes. May cause lung edema. Symptoms may include sore throat, shortness of breath, inflammation of nasal passages, coughing, and wheezing. Any exposure may cause an allergic reaction. Asthma-like symptoms and life-threatening shock may result.

#### Ingestion:

Corrosive. May produce abdominal pain, nausea and vomiting.

#### Skin Contact:

Corrosive. May cause skin burns.

#### Eye Contact:

May cause severe irritation and pain.

#### Chronic Exposure:

Prolonged skin contact may cause an allergic reaction with dermatitis.

#### Aggravation of Pre-existing Conditions:

Persons with impaired respiratory function may be more susceptible to the effects of the substance.

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### Section 3: Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Ammonium Persulfate	7727-54-0	15 - 25%	Yes
Water	7732-18-5	28 - 79%	No

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### Section 4: First-Aid Measures

#### Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

#### Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

#### Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.

**Eye Contact:**

Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

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**Section 5: Fire-Fighting Measures**

**Fire:**

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Heating or contact with water releases oxygen which may intensify combustion in an existing fire.

**Explosion:**

An explosion hazard when mixed with finely powdered organic matter, metal powder, or reducing agents.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire. Do not use water.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face-piece operated in the pressure demand or other positive pressure mode. Sealed containers may rupture when heated.

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**Section 6: Accidental Release Measures**

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

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**Section 7: Handling and Storage**

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Separate from incompatibilities. Store below 25C. Protect from direct sunlight. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

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**Section 8: Exposure Controls/ Personal Protection**

**Airborne Exposure Limits:**

-OSHA Permissible Exposure Limit (PEL):  
0.1 ppm (as persulfate)

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

**Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Airpurifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**

Wear protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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**Section 9: Physical and Chemical Properties**

**Appearance:**

Clear, colorless solution.

**Odor:**

Odorless.

**Solubility:**

80 g/100 ml water @ 25°C (77°F)

**Specific Gravity:**

1.98 @ 20°C/4°C

**pH:**

No information found

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

No information found

**Melting Point:**

No information found

**Vapor Density (Air=1):**

No information found

**Vapor Pressure (mm Hg):**

No information found

**Evaporation Rate (BuAc=1):**

No information found.

**Section 10: Stability and Reactivity**

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Decomposed by moisture to form oxygen and ozone. Burning may produce nitrogen oxides, sulfur oxides, and sulfuric acid.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Reducing agents, organic material, sodium peroxide, water and powdered metals especially aluminum.

**Conditions to Avoid:**

Combustible materials and incompatibles.

**Section 11: Toxicological Information**

For ammonium hydroxide:

oral rat LD50: 689 mg/kg

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Ammonium Persulfate (7727-54-0)	No	No	None
Water (7732-18-5)	No	No	None

**Section 12: Ecological Information**

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

**Section 13: Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**Section 14: Transportation Information**

**Domestic (Land, D.O.T.)**

**Proper Shipping Name:** OXIDIZING LIQUID, N.O.S. (AMMONIUM PERSULFATE)

**Hazard Class:** 5.1

**UN/NA:** UN3139

**Packing Group:** III

**Section 15: Regulatory Information**

WHMIS Classification: D1B, E

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Ammonium Persulfate (7727-54-0)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	Korea	--Canada--		
		DSL	NDSL	Phil.
Ammonium Persulfate (7727-54-0)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Ammonium Persulfate (7727-54-0)	No	No	No	No
Water (7732-18-5)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	8 (d)
Ammonium Persulfate (7727-54-0)	No	No	No
Water (7732-18-5)	No	No	No

Chemical Weapons Convention: No      TSCA 12 (b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: Yes      Fire: Yes      Pressure: No  
Reactivity: No      (Mixture / Liquid)

**Australian Hazchem Code:** 2P  
**Poison Schedule:** Non allocated

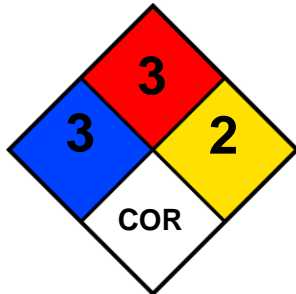
**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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**Section 16: Other Information**

**16.1 NFPA 704**



**Top, Flammability: 3 – Severe Hazard**

**Left, Health Hazard: 3 – Severe Hazard**

**Right, Reactivity: 2 – Moderate Hazard**

**Bottom, Special Notice: COR – Corrosive**

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent.

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