SAFETY DATA SHEET
AMMONIUM PERSULPHATE
REVISION 5, DATE 30 MAY 2022

1. IDENTIFICATION

Product Name	**Ammonium Persulphate**
Other Names	Ammonium peroxydisulfate
Uses	Oxidizing agents; polymerisation initiators.
Chemical Family	No Data Available
Chemical Formula	(NH4)2S2O8
Chemical Name	Peroxydisulfuric acid, diammonium salt
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)	Not Scheduled

Globally Harmonised System

Hazard Classification

Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories

Oxidising Solids - Category 3

Acute Toxicity (Oral) - Category 4

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Irritation - Category 2

Sensitisation (Respiratory) - Category 1

Sensitisation (Skin) - Category 1

Specific Target Organ Toxicity (Single Exposure) - Category 3

Pictograms

Signal Word

Danger

Hazard Statements

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

Prevention	**P261**	Avoid breathing dust.
	P270	Do not eat, drink or smoke when using this product.
	P272	Contaminated work clothing should not be allowed out of the workplace.
	P271	Use only outdoors or in a well-ventilated area.
	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P220	Keep away from clothing and other combustible materials.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P284	Wear respiratory protection.
Response	**P370 + P378**	In case of fire: Use water for extinction.
	P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor for emergency medical advice.
	P302 + P352	IF ON SKIN: Wash with plenty of water.
	P337 + P313	If eye irritation persists: Get medical attention.
	P333 + P313	If skin irritation or rash occurs: Get medical attention.
	P312	Call a POISON CENTER or doctor if you feel unwell.
	P330	Rinse mouth.
	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
	P362 + P364	Take off contaminated clothing and wash it before reuse.
Storage	**P403 + P233**	Store in a well-ventilated place. Keep container tightly closed.
	P405	Store locked up.

Disposal	**P501**	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Physical Hazards	**5.1.1C**	Oxidising substances that are liquids or solids: low hazard
	Health Hazards	**6.1D**	Substances that are acutely toxic - Harmful
		6.3A	Substances that are irritating to the skin
		6.4A	Substances that are irritating to the eye
		6.5A	Substances that are respiratory sensitisers
		6.5B	Substances that are contact sensitisers
		6.9B	Substances that are harmful to human target organs or systems

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Ammonium persulfate	(NH4)2S2O8	7727-54-0	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth thoroughly with water. Keep respiratory tract clear. Call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention. *Protect unharmed eye.
Skin	IF ON SKIN (or hair): Immediately flush skin and hair with running water for at least 15 minutes, while removing contaminated clothing and shoes. If skin irritation or rash occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse. *Contaminated clothing may be a fire risk when dry.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Keep respiratory tract clear. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically and supportively. Keep victim calm and warm. Show this safety data sheet (SDS) to the doctor in attendance. Do not leave the victim unattended. Symptoms of poisoning may appear several hours later. *Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. May cause allergy or asthma symptoms or breathing difficulties if inhaled; May cause an allergic skin reaction.

Medical Conditions Aggravated by Exposure	

5. FIRE FIGHTING MEASURES

General Measures	Move containers from fire area if you can do it without risk. Do not move cargo or vehicle if cargo has been exposed to heat! Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire.
Flammability Conditions	OXIDISING SOLID: Will accelerate burning when involved in a fire. May ignite combustibles.
Extinguishing Media	Use water. Do not use dry chemicals or foams. CO2 or Halon® may provide limited control. Large fire: Flood fire area with water from a distance. *Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Fire and Explosion Hazard	May explode from heat or contamination! Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapours which may auto-ignite.
Hazardous Products of Combustion	Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition.
Special Fire Fighting Instructions	Runoff from fire control or dilution water may cause pollution. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. *Runoff may create fire or explosion hazard!
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing - It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	1Z

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. Remove all sources of ignition. Prevent exposure to heat. Do not contaminate - Contact with incompatible substances can cause decomposition at or below SADT. Keep combustibles away from spilled material! Clear spills immediately! Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Use clean non-sparking tools to transfer material to a clean, dry plastic container and cover loosely. Move container from spill area. Isolate waste and do not reuse. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the clean-up of releases (see SECTION 13). *Never return spills in original containers for re-use.
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, drains or confined areas. *Use water spray to knock down vapours or divert vapour clouds.
Decontamination	Following product recovery, flush area with water. Soak up with inert absorbent material.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. For large spills: Consider initial downwind evacuation of areas within at least 100 m.
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Provide appropriate exhaust ventilation at places where dust is formed. Handle in accordance with good industrial hygiene and safety practice. Minimise workplace exposure concentrations. Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). OXIDISING SOLID: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Take precautionary measures against static discharges. Do not contaminate - Keep away from combustible materials! Never return any product to the container from which it was originally removed.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep containers tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage and risk of impurities. Protect from contamination. Protect from moisture. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Keep away from combustibles and other incompatible materials (see SECTION 10). Store locked up. Store in accordance with the particular national regulations. *Recommended storage temperature: < 30 °C
Container	Store in original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	For Ammonium persulphate (CAS No. 7727-54-0): - Safe Work Australia Exposure Standard: TWA = 0.1 mg/m3 Peak limitation; Respiratory and/or skin sensitiser (Sen).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. 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.
Personal Protection Equipment	- Respiratory protection: In the case of dust or aerosol formation, use respirator with an approved filter. Recommended: Filter type P (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Tightly fitting safety goggles. Also wear face protection if there is a splash hazard. - Hand protection: Wear protective gloves. Recommended: Butyl rubber (0.5 mm) or Nitrile rubber (0.4 mm). Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance(s) and specific to place of work. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Protective suit. Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Special Hazards Precaustions	Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline
Odour	Slight, not significant
Colour	White
pH	4 ca. 10 g/l
Vapour Pressure	<0.001 hPa (@ 25 °C)
Relative Vapour Density	No Data Available

Boiling Point	No Data Available
Melting Point	Decomposes below the melting point
Freezing Point	No Data Available
Solubility	Soluble in water (850 g/l) 25°C
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	1,100 kg/m3 (20 °C)
Corrosion Rate	No Data Available
Decomposition Temperature	SADT: 130 °C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	228.19
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not expected to form explosive dust-air mixtures.
Fast or Intensely Burning Characteristics	May explode from heat or contamination!
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	Contact with incompatible substances can cause decomposition at or below SADT.
Properties That May Initiate or Contribute to Fire Intensity	OXIDISING SOLID: Will accelerate burning when involved in a fire. May ignite combustibles.
Reactions That Release Gases or Vapours	Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition.
Release of Invisible Flammable Vapours and Gases	Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapours which may auto-ignite.

10. STABILITY AND REACTIVITY

General Information	Even small amounts of moisture or impurities can noticeably reduce the self-accelerating decomposition temperature (SADT).
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Avoid moisture and contact with incompatible substances. Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with combustible materials, accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents.
	Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition.

Hazardous Decomposition Products	
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	- Acute toxicity: Harmful if swallowed. The component/mixture is moderately toxic after single ingestion. - Skin corrosion/irritation: Causes skin irritation. Skin irritation (Rabbit) [OECD Test Guideline 404]. - Eye damage/irritation: Causes serious eye irritation. Irritating to eyes (Rabbit) [OECD Test Guideline 405]. - Respiratory/skin sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. - Germ cell mutagenicity: Not classified based on available information. - Carcinogenicity: Not classified based on available information. - Reproductive toxicity: Not classified based on available information. - STOT (single exposure): May cause respiratory irritation. - STOT (repeated exposure): Not classified based on available information. - Aspiration toxicity: Not classified based on available information.

Acute

Ingestion	Acute toxicity (Oral): - LD50, Rat (male): 742 mg/kg [OECD Test Guideline 401; Supplier's SDS].
Inhalation	Acute toxicity (Inhalation): - LC50, Rat: >5.1 mg/l (4 h) dust/mist [OECD Test Guideline 403; Supplier's SDS].
Other	Acute toxicity (Dermal): - LD50, Rat: >2,000 mg/kg [Supplier's SDS].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC50 Fish (Scophthalmus maximus): 107.6 mg/l (96 h) [OECD Test Guideline 203]. - EC50, Crustacea (Daphnia magna): 120 mg/l (48 h) [OECD Test Guideline 202]. - EC50, Algae/aquatic plants (Phaeodactylum): 320 mg/l (72 h) [OECD Test Guideline 201]. - NOEC, Algae/aquatic plants (Phaeodactylum): 32 mg/l (72 h) [OECD Test Guideline 201]. Toxicity to microorganisms: - EC10, Bacteria (Pseudomonas putida): 36 mg/l (18 h).
Persistence/Degradability	The methods for determining biodegradability are not applicable to inorganic substances.
Mobility	No information available.
Environmental Fate	Slightly water endangering - The product should not be allowed to enter drains, water courses or the soil.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Do not contaminate ponds, waterways or ditches with chemical or used container. Do not re-use empty containers.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	AMMONIUM PERSULPHATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
EPG	140 Oxidizers
UN Number	1444
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)
ADR Code

Proper Shipping Name	AMMONIUM PERSULPHATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
EPG	140 Oxidizers
UN Number	1444
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)
NZS5433

Proper Shipping Name	AMMONIUM PERSULPHATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
EPG	140 Oxidizers
UN Number	1444
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)
US DOT

Proper Shipping Name	AMMONIUM PERSULPHATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
ERG	140 Oxidizers
UN Number	1444
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

Sea Transport
IMDG Code

Proper Shipping Name	AMMONIUM PERSULPHATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
UN Number	1444
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-Q
Marine Pollutant	No

Air Transport
IATA DGR

Proper Shipping Name	AMMONIUM PERSULPHATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
UN Number	1444
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR001311 (Reissued)

National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined

China (IECSC)	Listed
Europe (EINECS)	231-786-5
Europe (REACh)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (List of Classified Substances)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Taiwan (TCSI)	Listed
USA (TSCA)	Listed
Mexico (INSQ)	Not Determined

16. OTHER INFORMATION

Related Product Codes	AMPERS1000, AMPERS1001, AMPERS1002, AMPERS1003, AMPERS1004, AMPERS1005, AMPERS1006, AMPERS1007, AMPERS1008, AMPERS1009, AMPERS1010, AMPERS1011, AMPERS1012, AMPERS1013, AMPERS1014, AMPERS1015, AMPERS1016, AMPERS1017, AMPERS1018, AMPERS1019, AMPERS2000, AMPERS2001, AMPERS2002, AMPERS2003, AMPERS2004, AMPERS2005, AMPERS2006, AMPERS2500, AMPERS3000, AMPERS3500, AMPERS3501, AMPERS3502, AMPERS3503, AMPERS3504, AMPERS3505, AMPERS3506, AMPERS3507, AMPERS3508, AMPERS3509, AMPERS3510, AMPERS3511, AMPERS3512, AMPERS3513, AMPERS3514, AMPERS3515, AMPERS3516, AMPERS3517, AMPERS3518, AMPERS3519, AMPERS3520, AMPERS3521, AMPERS3522, AMPERS3523, AMPERS3524, AMPERS3525, AMPERS3526, AMPERS3527, AMPERS3528, AMPERS3529, AMPERS3530, AMPERS3531, AMPERS3532, AMPERS3533, AMPERS3534, AMPERS3600, AMPERS3601, AMPERS3800, AMPERS4000, AMPERS4001, AMPERS5000, AMPERS6000, AMPERS6500, AMPERS7000, AMPERS7200, AMPERS7500, AMPERS7501, AMPERS7600, AMPERS8000, AMPERS9000, AMPERS9100, AMPERS9200, AMPERS9300, AMPERS9500
Revision	5
Revision Date	30 May 2022
Key/Legend	< Less Than > Greater Than **AICS** Australian Inventory of Chemical Substances **atm** Atmosphere **CAS** Chemical Abstracts Service (Registry Number) **cm^2** Square Centimetres **CO2** Carbon Dioxide **COD** Chemical Oxygen Demand **deg C (°C)** Degrees Celcius **EPA (New Zealand)** Environmental Protection Authority of New Zealand **deg F (°F)** Degrees Farenheit **g** Grams **g/cm^3** Grams per Cubic Centimetre **g/l** Grams per Litre **HSNO** Hazardous Substance and New Organism **IDLH** Immediately Dangerous to Life and Health **immiscible** Liquids are insoluable in each other. **inHg** Inch of Mercury **inH2O** Inch of Water **K** Kelvin **kg** Kilogram **kg/m^3** Kilograms per Cubic Metre **lb** Pound

LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m^3 Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m^3 Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight