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MATERIAL SAFETY DATA SHEET
REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

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DATE UPDATED: AUGUST 17, 2016

SECTION 1. ----- CHEMICAL IDENTIFICATION -----

Product Name Ammonium Persulfate
Product Code(s) AB0072
Recommended Use For Further Manufacturing Use Only
Not for Human or Animal Drug Use

SECTION 2. ----- HAZARDS IDENTIFICATION -----

Emergency Overview

WHMIS Classification

C	Oxidizing Material	Oxidizer
D2A	Very Toxic Material Causing Other Toxic Effects	Respiratory sensitiser
D2B	Toxic Material Causing Other Toxic Effects	Skin sensitiser
E	Corrosive Material	Corrosive to metals
		Corrosive to skin
		Corrosive

GHS Classification

Oxidizing solids (Category 3)
Acute toxicity, Oral (Category 4)
Acute toxicity, Dermal (Category 5)
Skin corrosion/irritation (Category 2)
Serious eye damage/eye irritation (Category 2A)
Respiratory sensitisation (Category 1)
Skin sensitisation (Category 1)
Specific target organ toxicity - single exposure (Category 3), Respiratory system
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H313	May be 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.
H402	Harmful to aquatic life.

Precautionary statement(s)

P220	Keep away from clothing and other combustible materials.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.

HMIS Classification

Health hazard:	2
Flammability:	0
Physical hazards:	1

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.

SECTION 3. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	CAS-No	Weight %
Ammonium persulfate	231-786-5	7727-54-0	95-100

SECTION 4. ----- FIRST-AID MEASURES -----

General advice

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

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical

Container explosion may occur under fire conditions.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NOx), Sulphur oxides

Explosion data - sensitivity to mechanical impact

No data available

Explosion data - sensitivity to static discharge

No data available

Further information

May intensify fire; oxidizer. Use water spray to cool unopened containers.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES - - - - -**Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

SECTION 7. - - - - - HANDLING AND STORAGE - - - - -**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition -

No smoking. Keep away from heat and sources of ignition.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive. Keep in a dry place.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION - - - - -**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Diammonium peroxodisulphate	7727-54-0	TWA	0.100000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		TWAEV	0.100000 mg/m3	Canada. Ontario OELs
		TWA	0.100000 mg/m3	Canada. British Columbia OEL
		TWA	0.1 mg/m3	Canada. British Columbia OEL
		TWA	0.100000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

		TWA	0.1 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
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Personal protective equipment

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).

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.

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).

Skin and body protection

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.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

Appearance

Form	powder
Colour	white

Safety data

pH	1.0 - 2 at 228 g/l at 25 °C (77 °F)
Melting point/freezing point	Decomposes before melting.
Boiling point	Decomposes below the boiling point.
Flash point	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	1.980 g/cm ³
Water solubility	228 g/l at 20 °C (68 °F) - completely soluble
Partition coefficient:	No data available

n-octanol/water	
Relative vapour density	7.88 - (Air = 1.0)
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

SECTION 10. -----STABILITY AND REACTIVITY -----

Chemical stability

May decompose on exposure to moist air or water. Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Materials to avoid

Strong reducing agents, Organic materials, Powdered metals

Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NOx), Sulphur oxides

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Acute toxicity

Oral LD50

LD50 Oral - Rat - 689 mg/kg

Inhalation LC50

No data available

Dermal LD50

LD50 Dermal - Rat - > 2,000 mg/kg

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - Rabbit - No skin irritation

Serious eye damage/eye irritation

Eyes - Rabbit - No eye irritation

Eyes - Rabbit - Mild eye irritation - OECD Test Guideline 405

Respiratory or skin sensitisation

May cause allergic respiratory and skin reactions

Guinea pig - Causes sensitisation. - OECD Test Guideline 406

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

No data available

Additional Information

RTECS: SE0350000

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Toxicity

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 76 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 120 mg/l - 48 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Product

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.

Contaminated packaging

Dispose of as unused product.

SECTION 14. ----- TRANSPORT INFORMATION -----

DOT (US)

UN number: 1444 Class: 5.1 Packing group: III
Proper shipping name: Ammonium persulfate
Reportable Quantity (RQ):
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 1444 Class: 5.1 Packing group: III EMS-No: F-A, S-Q
Proper shipping name: AMMONIUM PERSULPHATE
Marine pollutant: No

IATA

UN number: 1444 Class: 5.1 Packing group: III
Proper shipping name: Ammonium persulphate

SECTION 15. ----- REGULATORY INFORMATION -----

WHMIS Classification

C	Oxidizing Material	Oxidizer
D2A	Very Toxic Material Causing Other Toxic Effects	Respiratory sensitiser
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		Corrosive to skin
		Corrosive

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

SECTION 16. ----- OTHER INFORMATION -----

Issuing Date 13-Aug-2009
Revision Date 17-Aug-2016
Revision Note No information available.
Recommended Restrictions No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS