610, rue Adanac, Quebec (Quebec) G1C 7B7

SAFETY DATA SHEET

Tel. (Qc): (418) 660-8666
Tel. (Mtl): (450) 443-1046
Fax. (Qc): (418) 660-8998

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Oxone®, monopersulfate compound

Product Number : OP-0109

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : This product is not intended for consumer use.

1.3 Details of the supplier of the safety data sheet

Supplier	:	Laboratoire MAT Inc. 610 Adanac street Quebec QC G1C 7B7 CANADA www.labmat.com
Telephone	:	418-660-866
Fax	:	418-660-899
Emergency	:	418-660-8666 Mon-Fri 8h-16h
E-mail	:	labmat@labmat.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with Hazardous Products Regulations (HPR) (SOR/2015-17)

Acute toxicity, Oral (Category 4), H302
Skin corrosion (Category 1B), H314
Serious eye damage (Category 1), H318
Short-term (acute) aquatic hazard (Category 3), H402
Long-term (chronic) aquatic hazard (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word Danger

Hazard statement(s)

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P260	Do not breathe dust.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

- none

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Synonyms : Potassium peroxymonosulfate

Formula : $HKO_5S \cdot 0.5HKO_4S \cdot 0.5K_2O_4S$

Molecular weight : 307.38 g/mol

Component		Classification	Concentration *
Pentapotassium bis(peroxymonosulphate) bis(sulphate)			
CAS-No. EC-No. Registration number	70693-62-8 274-778-7 01-2119485567-22-	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 3; Aquatic Chronic 2; H302, H314, H318,	>= 80 - <= 100 %

	XXXX	H402, H411	
* Weight %			
potassium hydrogensulphate			
CAS-No. EC-No. Index-No. Registration number	7646-93-7 231-594-1 016-056-00-4 01-2120764174-54-XXXX	Skin Corr. 1B; Eye Dam. 1; STOT SE 3; H314, H318, H335	>= 1 - < 5 %
* Weight %			
Potassium persulfate			
CAS-No. EC-No. Index-No. Registration number	7727-21-1 231-781-8 016-061-00-1 01-2119495676-19-XXXX	Ox. Sol. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; Resp. Sens. 1; Skin Sens. 1; STOT SE 3; Aquatic Acute 3; H272, H302, H315, H319, H334, H317, H335, H402	>= 1 - < 5 %
* Weight %			
dipotassium disulphate			
CAS-No. EC-No. Registration number	7790-62-7 232-216-8 01-2119987095-26-XXXX	Acute Tox. 3; Skin Corr. 1A; Eye Dam. 1; H331, H314, H318	>= 1 - < 5 %
* Weight %			

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Call in physician.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Sulfur oxides
Potassium oxides
Not combustible.
Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

hygroscopic

Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Potassium persulfate	7727-21-1	TWA	0.1 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			
		TWA	0.1 mg/m3	Canada. British Columbia OEL
		TWA	0.1 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

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

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please

contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

Body Protection
Acid-resistant protective clothing

Respiratory protection
Recommended Filter type: Filter type P2
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: granular Color: white
b)	Odor	none
c)	Odor Threshold	Not relevant
d)	pH	2.1 at 30 g/l at 77 °C (171 °F)
e)	Melting point/freezing point	Melting point/range: ()Decomposes before melting.
f)	Initial boiling point and boiling range	Not applicable
g)	Flash point	()does not flash ()Not applicable
h)	Evaporation rate	Not applicable
i)	Flammability (solid, gas)	The product itself does not burn, but it is slightly oxidizing (active oxygen content ca. 2%).
j)	Upper/lower	No data available

	flammability or explosive limits	
k)	Vapor pressure	< 0.0000017 hPa
l)	Vapor density	No data available
m)	Density	1.100 - 1.400 g/cm3
	Relative density	2.3520 °C
n)	Water solubility	357 g/l at 22 °C (72 °F) - soluble
o)	Partition coefficient: n-octanol/water	No data available
p)	Autoignition temperature	Not applicable
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	Not classified as explosive.
t)	Oxidizing properties	The substance or mixture is not classified as oxidizing.

9.2 Other safety information

Bulk density	1,100 - 1,400 kg/m3

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Extremes of temperature and direct sunlight. Do not expose to temperatures above: 50°C no information available

10.5 Incompatible materials
Halogenated compounds, Cyanides, Heavy metal salts

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity
Oral: No data available
Acute toxicity estimate Oral - 542.64 mg/kg
(Calculation method)
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Acute toxicity estimate Inhalation - 4 h - > 5 mg/l - dust/mist(Calculation method)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Acute toxicity estimate Dermal - > 2,000 mg/kg
(Calculation method)

Skin corrosion/irritation
Skin - Rabbit
Result: Causes burns.
Remarks: Mixture causes burns.

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Risk of serious damage to eyes.
Remarks: Mixture causes serious eye damage.
Risk of blindness!

Respiratory or skin sensitization
- Guinea pig
Remarks: Did not cause sensitization on laboratory animals.
May cause sensitization of susceptible persons by skin contact or by inhalation of dust.

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache
Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

Pentapotassium bis(peroxymonosulphate) bis(sulphate)

Acute toxicity
LD50 Oral - Rat - male and female - 500 mg/kg
(OECD Test Guideline 423)
LC50 Inhalation - Rat - 4 h - 1.85 mg/l - dust/mist
(Regulation (EC) No. 440/2008, Annex, B.2)
Remarks: Not classified due to inconclusive data.
(ECHA)
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: Causes burns. - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes burns.
(OECD Test Guideline 405)

Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: Not a skin sensitizer.
(OECD Test Guideline 406)

Germ cell mutagenicity
Test Type: Ames test
Test system: S. typhimurium
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

potassium hydrogensulphate

Acute toxicity
LD50 Oral - Rat - female - > 2,000 mg/kg
(OECD Test Guideline 423)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: S. typhimurium
Result: negative
Remarks: (ECHA)

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Potassium persulfate

Acute toxicity
LD50 Oral - Rat - female - 700 mg/kg
(OECD Test Guideline 401)
Remarks: (in analogy to similar compounds)
The value is given in analogy to the following substances: Ammonium peroxodisulphate
LC50 Inhalation - Rat - male and female - 4 h - >= 2.95 mg/l - dust/mist
(US-EPA)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Ammonium peroxodisulphate
Inhalation: Irritating to respiratory system.
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(US-EPA)
Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Ammonium peroxodisulphate

Skin corrosion/irritation
Remarks: Causes skin irritation.
(Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye irritation.
(OECD Test Guideline 405)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Ammonium peroxodisulphate
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitization
Freund's complete adjuvant test - Guinea pig
Result: positive
(OECD Test Guideline 406)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Germ cell mutagenicity
Test Type: Ames test
Test system: S. typhimurium
Result: negative
Remarks: (in analogy to similar products)
(ECHA)
The value is given in analogy to the following substances: disodium peroxodisulphate
Test Type: unscheduled DNA synthesis assay
Test system: rat hepatocytes
Result: negative
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: disodium peroxodisulphate
Method: OECD Test Guideline 474
Species: Mouse - male and female - Bone marrow
Result: negative
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: disodium peroxodisulphate
Method: OECD Test Guideline 486
Species: Rat - male - Liver cells
Result: negative
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: disodium peroxodisulphate

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation. - Respiratory system
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

dipotassium disulphate

Acute toxicity
LD50 Oral - Rat - male - 5,547 mg/kg
(OECD Test Guideline 401)
Remarks: (in analogy to similar compounds)
LC50 Inhalation - Rat - male and female - 4 h - 0.972 mg/l - dust/mist
(OECD Test Guideline 403)
Remarks: (in analogy to similar products)
Dermal: No data available

Skin corrosion/irritation
Remarks: Causes skin burns.
(ECHA)

Serious eye damage/eye irritation
Remarks: Causes serious eye damage.
(ECHA)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster lung cells
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Result: positive
Remarks: (ECHA)
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

SECTION 12: Ecological information

12.1 Toxicity

Mixture
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties
No data available

12.7 Other adverse effects
No data available

Components

Pentapotassium bis(peroxymonosulphate) bis(sulphate)

Toxicity to fish	semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 53 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - Daphnia magna (Water flea) - 3.5 mg/l (OECD Test Guideline 202)
	semi-static test NOEC - Daphnia magna (Water flea) - 2.5 mg/l (OECD Test Guideline 202)
Toxicity to algae	static test NOEC - Pseudokirchneriella subcapitata - 0.5 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - Pseudomonas putida - 179 mg/l - 18 h Remarks: (ECHA)
Toxicity to fish(Chronic toxicity)	flow-through test NOEC - Cyprinodon variegatus (sheepshead minnow) - 0.222 mg/l - 37 d (US-EPA)

potassium hydrogensulphate
No data available

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 1,776 mg/l (US-EPA)

Potassium persulfate

Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) - 76.3 mg/l - 96 h Remarks: (in analogy to similar products) (ECHA) The value is given in analogy to the following substances: Ammonium peroxodisulphate
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 120 mg/l - 48 h Remarks: (in analogy to similar products) (ECHA) The value is given in analogy to the following substances: Ammonium peroxodisulphate
Toxicity to algae	static test ErC50 - Phaeodactylum tricornutum - 320 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Ammonium peroxodisulphate
Toxicity to bacteria	static test EC50 - Pseudomonas putida - 36 mg/l - 18 h Remarks: (in analogy to similar products) (ECHA) The value is given in analogy to the following substances: Ammonium peroxodisulphate

dipotassium disulphate

Toxicity to fish	static test LC50 - Pimephales promelas (fathead minnow) - 680 mg/l - 96 h (US-EPA) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: potassium sulphate
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 720 mg/l - 48 h (US-EPA) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: potassium sulphate
Toxicity to algae	Remarks: No data available
Toxicity to bacteria	NOEC - activated sludge - ca. 8 g/l - 37 d Remarks: (in analogy to similar products)

	(ECHA)
Toxicity to fish(Chronic toxicity)	EC50 - Pimephales promelas (fathead minnow) - > 1,649 - < 5,250 mg/l - 7 d Remarks: (in analogy to similar products) (ECHA)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Ceriodaphnia dubia (water flea) - 790 mg/l - 7 d Remarks: (in analogy to similar products) (ECHA)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

TDG
UN number: 3260 Class: 8 Packing group: II
Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Pentapotassium bis(peroxymonosulphate) bis(sulphate))
Labels: 8
ERG Code: 154
Marine pollutant: no

IMDG
UN number: 3260 Class: 8 Packing group: II EMS-No: F-A, S-B
Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Pentapotassium bis(peroxymonosulphate) bis(sulphate))
Marine pollutant : yes

IATA
UN number: 3260 Class: 8 Packing group: II
Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Pentapotassium bis(peroxymonosulphate) bis(sulphate))

SECTION 15: Regulatory information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

SECTION 16: Other information

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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