# Safety Data Sheet - Version 5.0

**Preparation Date** 11/16/2015

**Latest Revision Date (If Revised)**

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

**Chemical Name** Sodium Persulfate

**Catalogue #** S665900

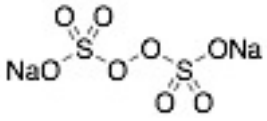
### 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

**Product Uses** To be used only for scientific research and development. Not for use in humans or animals.

### 1.3 Details of the Supplier of the Safety Data Sheet


**Company** Toronto Research Chemicals
2 Brisbane Road
Toronto, ON M3J 2J8
CANADA

**Telephone** +14166659696
**FAX** +14166654439
**Email** orders.trc@lgcgroup.com


### 1.4 Emergency Telephone Number

**Emergency#** +1(416) 665-9696 between 0800-1700 (GMT-5)

## 2. HAZARDS IDENTIFICATION

### 2.1/2.2 Classification of the Substance or Mixture and Label Elements

**GHS Hazards Classification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)**

Oxidising Solids (Category 2)
Acute Toxicity, Oral (Category 4)
Skin Irritation (Category 2)
Eye Damage/Irritation (Category 2A)
Sensitisation, Respiratory (Category 1)
Sensitisation, Skin (Category 1)
Specific Target Organ Toxicity, Single Exposure; Respiratory Tract Irritation (Category 3)

**GHS Hazards Identification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)**

**Signal Word** Danger

**GHS Hazard Statements**

| | |
|---|---|
| H272 | May intensify fire; oxidiser. |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H317 | May cause an allergic skin reaction. |
| H335 | May cause respiratory irritation. |

**GHS Precautionary Statements**

| | |
|---|---|
| P220 | Keep/Store away from clothing/combustible materials. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| 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.

### 2.3 Unclassified Hazards/Hazards Not Otherwise Classified

No data available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

**Molecular Formula:** Na□O□S□ **Molecular Weight:** 238.1

**CAS Registry #:** 7775-27-1 **EC#:** 231-892-1

**Synonyms**

Peroxydisulfuric Acid ([(HO)S(O)2]2O2) Disodium Salt; Sodium Peroxydisulfate; Disodium Peroxodisulfate; Disodium Peroxydisulfate; Disodium Persulfate; SP; SP (Peracid); SPS; Sodium Dipersulfate; Sodium Peroxodisulfate; Sodium Peroxydisulfate (Na2S2O8); Sodium Persulfate (Na2S2O8)

### 3.2 Mixtures

Not a mixture.

## 4. FIRST AID MEASURES

### 4.1 Description of First Aid Measures

**General Advice**
If medical attention is required, show this safety data sheet to the doctor.

**If Inhaled**
If inhaled, move person to fresh air. If not breathing, give artificial respiration and consult a physician.

**In Case of Skin Contact**
Wash affected area with soap and water. Consult a physician if any exposure symptoms are observed.

**In Case of Eye Contact**
Immediately rinse eyes with plenty of water for at least 15 minutes. Consult a physician.

**If Swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Do NOT induce vomiting unless advised to do so by a physician or Poison Control Center. Seek medical attention.

### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11.

### 4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

No data available.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing Media

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

### 5.2 Special Hazards Arising from the Substance or Mixture

Sulfur oxides, Sodium oxides

### 5.3 Advice for Firefighters

Wear self contained breathing apparatus for fire fighting if necessary. Use personal protection equipment.

### 5.4 Further Information

No data available.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Avoid contact with skin, eyes or clothing.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Method and materials for containment and cleaning up**
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

**7.1 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.

**7.2 Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.
Keep in a dry place.

Storage conditions: -20°C, Hygroscopic

**7.3 Specific End Uses**
For scientific research and development only. Not for use in humans or animals.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control Parameters**

**Components with workplace control parameters**

| Components | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Disodium peroxodisulphate | 7775-27-1 | TWA | 0.100000 mg/m3 | Canada. British Columbia OEL |
| | | 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. Alberta, Occupational Health and Safety Code (table 2: OEL) |

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 | 0.100000 mg/m3 | USA. ACGIH Threshold Limit Values (TLV) |
| TWA | 0.1 mg/m3 | USA. ACGIH Threshold Limit Values (TLV) |

**8.2 Exposure Controls**

**Appropriate Engineering Controls**
A laboratory fumehood or other appropriate form of local exhaust ventilation should be used to avoid exposure.

**Personal Protective Equipment**
All recommendations below are advisory in nature and a risk assessment should be performed by the employer/end user prior to use of this product. The type of protective equipment must be selected based on the amount and concentration of the dangerous material being used in the workplace.

**Eye/Face Protection**
Safety goggles or face shield. All equipment should have been tested and approved under appropriate standards, such as NIOSH (US), CSA (Canada), or EN 166 (EU).

**Skin Protection**
Gloves should be used when handling this material. Gloves are to be inspected prior to use. Contaminated gloves are to be removed using proper glove removal technique so that the outer surface of the glove does not contact bare skin. Dispose of contaminated gloves after use in compliance with good laboratory practices and local requirements.

Gloves used for incidental exposures (splash protection) should be designated as “chemical resistant” by EU standard EN 374 with the resistance codes corresponding to the anticipated use of the material. Unrated gloves are not recommended.
Suggested gloves: AnsellPro Sol-Vex nitrile gloves style 37-175, 15 mil thickness.
Penetration time has not been determined.

Gloves used for prolonged direct exposure (immersion) should be designated “chemical resistant” as per EN 734 with the resistance codes corresponding to the anticipated use of the material.
Suggested gloves: AnsellPro Viton/Butyl gloves style 38-612, 4/8 mil thickness.
Penetration time has not been determined.

These recommendations may not apply if the material is mixed with any other chemical, or dissolved into a solution. A risk assessment must be performed to ensure the gloves will still offer acceptable protection.

**Body Protection**
Fire resistant (Nomex) lab coat or coveralls.

**Respiratory Protection**
Recommended respirators are NIOSH-approved N100 or CEN-approved FFP3 particulate respirators. These are to be only used as a backup to local exhaust ventilation or other engineering controls. If the respirator is the only means of protection, a full-face supplied air respirator must be used.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on Basic Physical and Chemical Properties

**A) Appearance**
White to Off-White Solid

**B) Odour**
odourless

**C) Odour Threshold**
No data available

**D) pH**
No data available

**E) Melting Point/Freezing Point**
>300°C

**F) Initial Boiling Point/Boiling Range**
No data available

**G) Flash point**
No data available

**H) Evaporation Rate**
No data available

**I) Flammability (Solid/Gas)**
No data available

**J) Upper/Lower Flammability/Explosive Limits**
No data available

**K) Vapour Pressure**
< 0.0001 hPa (< 0.0001 mmHg)

**L) Vapour Density**
No data available

**M) Relative Density**
1.68 g/cm3

**N) Solubility**
Water (Slightly)

**O) Partition Coefficient: n-octanol/water**
No data available

**P) Auto-Ignition Temperature**
> 600 °C (> 1,112 °F)

**Q) Decomposition Temperature**
No data available

**R) Viscosity**
No data available

**S) Explosive Properties**
No data available

**T) Oxidizing Properties**
No data available

### 9.2 Other Information
no data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity
No data available.

### 10.2 Chemical Stability
Stable under recommended storage conditions.

### 10.3 Possibility of Hazardous Reactions
No data available

### 10.4 Conditions to Avoid
Exposure to moisture.

### 10.5 Incompatible Materials
Alcohols, Strong reducing agents, Strong bases, Powdered metals, Organic materials.

### 10.6 Hazardous Decomposition Products
**In the event of fire:** See section 5. **Other decomposition products:** No data available.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects

#### A) Acute Toxicity

**Oral LD50:** Rat - 920 mg/kg

**Inhalation LC50:** Rat - > 5.1 mg/l

**Dermal LD50:** Rabbit - > 10,000 mg/kg

#### B) Skin Corrosion/Irritation

Moderate skin irritant.

#### C) Serious Eye Damage/Irritation

Moderate eye irritant.

#### D) Respiratory or Skin Sensitization

May cause an allergic skin reaction. Inhalation may cause difficulty breathing and asthma-like symptoms.

#### E) Germ Cell Mutagenicity

No data available

#### F) Carcinogenicity

No data available

#### G) Reproductive Toxicity/Teratogenicity

No data available

#### H) Single Target Organ Toxicity - Single Exposure

Moderate respiratory tract irritation.

#### I) Single Target Organ Toxicity - Repeated Exposure

No data available

#### J) Aspiration Hazard

No data available

#### K) Potential Health Effects and Routes of Exposure

**Inhalation**

May be harmful if inhaled. Causes respiratory tract irritation.

**Ingestion**

Harmful if swallowed.

**Skin**

May be harmful if absorbed through skin. Causes skin irritation.

**Eyes**

Causes eye irritation.

#### L) Signs and Symptoms of Exposure

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11.

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

#### M) Additional Information

RTECS: SE0525000

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

**Toxicity to fish:**

LC50 - Oncorhynchus mykiss (rainbow trout) - 163 mg/l - 96 h

**Toxicity to daphnia and other aquatic invertebrates:**

EC50 - Daphnia magna (Water flea) - 133 mg/l - 48 h

**Toxicity to algae:**

EC50 - Pseudokirchneriella subcapitata (green algae) - 116 mg/l - 72 h

### 12.2 Persistance and Degradability

The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative Potential

Bioaccumulation is unlikely.

### 12.4 Mobility in Soil

No data available.

### 12.5 Results of PBT and vPvB Assessment

No data available.

### 12.6 Other Adverse Effects

No data available.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste Treatment Methods

**A) Product**

Product may be burned in an incinerator equipped with afterburner and scrubber. Excess and expired materials are to be offered to a licensed hazardous material disposal company. Ensure that all Federal and Local regulations regarding the disposal and destruction of this material are followed.

**B) Contaminated Packaging**

Dispose of as above.

**C) Other Considerations**

Product is not to be disposed of in sanitary sewers, storm sewers, or landfills.

## 14. TRANSPORT INFORMATION

**14.1 UN Number**

| DOT (US): | IATA: | IMDG: | ADR/RID: |
|---|---|---|---|
| UN1505 | UN1505 | UN1505 | UN1505 |

**14.2 UN Proper Shipping Name**

DOT (US)/IATA:
Sodium persulfate

IMDG/ARD/RID:
SODIUM PERSULPHATE

**14.3 Transport Hazard Class(es)**

| DOT (US): | IATA: | IMDG: | ADR/RID: |
|---|---|---|---|
| 5.1 | 5.1 | 5.1 | 5.1 |

**14.4 Packing Group**

| DOT (US): | IATA: | IMDG: | ADR/RID: |
|---|---|---|---|
| III | III | III | III |

**14.5 Environmental Hazards**

| DOT (US): | IATA: | IMDG: | ADR/RID: |
|---|---|---|---|
| None | None | None | None |

**14.6 Special Precautions for User**

None

## 15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of WHMIS (Canada), OSHA 1910.1200 (US), and EU Regulation EC No. 1907/2006 (European Union).

**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture**

**A) Canada**

**DSL/NDSL Status:** This product or a component of this product is registered on the Canadian DSL/NDSL.

**B) United States**

**TSCA Status:** This product or a component is listed on the US EPA TSCA.

**C) European Union**

**ECHA Status:** This product or a component is registered with the EU ECHA.

**15.2 Chemical Safety Assessment**

No data available

## 16. OTHER INFORMATION

**16.1 Revision History**

Original Publication Date: 11/16/2015

**16.2 List of Abbreviations**

| | |
|---|---|
| LD50 | Median lethal dose of a substance required to kill 50% of a test population. |
| LC50 | Medial lethal concentration of a substance required to kill 50% of a test population. |
| LDLo | Lowest known lethal dose |
| TDLo | Lowest known toxic dose |
| IARC | International Agency for Research on Cancer |
| NTP | National Toxicology Program |
| RTECS | Registry of Toxic Effects of Chemical Substances |

**16.3 Further Information**

 The above information is believed to be correct to the best of our knowledge, but is to be only used as a guide. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Please take all due care when handling this product.

**This Safety Data Sheet contains 16 sections. All 16 sections must be present for this document to be valid.**

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