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MATERIAL SAFETY DATA SHEET

Potassium Selenate

MSDS Number : 012

Effective Date : 01/20/09

I. Product Identification

Trade Name	:	Potassium Selenate
Chemical Formula	:	K_2SeO_4
Molecular Weight	:	221.16
Manufacturer	:	Pacific Rare Specialty Metals And Chemicals, Inc. (PRSMCI) Lot 6 Blk 1, Phase II, West Avenue, Cavite Economic Zone, Rosario, Cavite, Philippines, 4106 Emergency Phone : (+63-02) 784 - 4000 Web Site : www.pacificrarespecialty.com

II. Composition / Information on Components

Sodium Biselenite (CAS# 7790-59-2), 100%
 EINECS/ELINCS 232-214-7
 EU Number: 034-002-00-8

III. Hazard Identification

Hazard Description : T Toxic
 N Dangerous for the environment

Information pertaining to particular dangers for man and environment :
 R 23/25 Toxic by inhalation and if swallowed
 R 33 Danger of cumulative effects.
 R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

HMIS ratings (scale 0 – 4)
 (Hazardous Materials Identification System)
 Health (acute effects) = 2
 Flammability = 0
 Reactivity = 1

IV. First - Aid Measures

General Information :

Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

Inhalation :

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

Ingestion :

Do not induce vomiting; immediately call for medical help. Seek immediate medical advice.

Skin Contact :

Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

Eye Contact :

Rinse opened eye for several minutes under running water. Then consult a doctor.

V. Fire Fighting Measures

Suitable extinguishing agents :

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Toxic metal oxide fume

Hydrogen selenide

Protective Equipment :

Wear self-contained respirator.

Wear fully protective impervious suit.

VI. Accidental Release Measures

Person-related safety precautions :

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.

Measures for environmental protection :

Do not allow material to be released to the environment without proper governmental permit.

Measures for cleaning / collecting :

Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

VII. Handling and Storage

Handling : Keep container tightly sealed. Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace. Open and handle container with care.

Information about protection against explosions and fires:

The product is not flammable.

Storage : Store away from oxidizing agents. Do not store together with acids. Store away from water / moisture.

Requirements to be met by storerooms and receptacles:

No special requirements.

Further information about storage conditions:

Store under dry inert gas. This product is hygroscopic. Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

VIII. Exposure Controls / Personal Protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Selenium and selenium compounds (as Se)

	mg/m ³		mg/m ³
ACGIH TLV	0.2	Japan OEL	0.1
Austria MAK	0.1	Korea TLV	0.2
Belgium TWA	0.2	Netherlands MAC-TGG	0.1
Denmark TWA	0.1	Poland TWA	0.1; 0.3-STEL
Finland TWA	0.1; 0.3-STEL	Sweden	0.1
Germany MAK	0.1	Switzerland MAK-W	0.1
Hungary	0.1-STEL	United Kingdom TWA	0.1
Ireland TLV	0.1	USA PEL	0.2

Personal Protective Equipment:

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Breathing equipment : Use suitable respirator when high concentrations are present.

Protection of hands : Impervious gloves

Eye protection : Safety glasses

Body protection : Protective work clothing.

IX. Physical and Chemical Properties

Form	: Powder	Specific Gravity	: Not Available
Color	: White	Melting Point	: Not Available
Odor	: Odorless	Boiling Point	: Not Available
Solubility	: soluble in water	Vapor Pressure	: Not Available
Viscosity	: Not available	Density (@ 20°C)	: 3.066 g/cm ³

X. Stability and Reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided : Acids, oxidizing agents, water / moisture

Dangerous reactions : No dangerous reactions known

Dangerous products of decomposition: Toxic metal oxide fume, Hydrogen selenide

XI. Toxicological Information

Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral : LDLo: 1800 mg/kg (rabbit)

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes

on the eye: irritating effects

Sensitization: No sensitizing effects known.

Other information (about experimental toxicology) :

Reproductive effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:

Selenium may cause amyotrophic lateral sclerosis, bronchial irritation, gastrointestinal distress, vasopharyngeal irritation, garlic odor on breath and sweat, metallic taste, pallor, irritability, excessive fatigue, loss of fingernails and hair, pulmonary edema, anemia and weight loss.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

IARC-3: Not classifiable as to carcinogenicity to humans.

NTP-2: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

XII. Ecological Information**Ecotoxicological effects:**

Remark : Very toxic for fish

General notes:

Also poisonous for fish and plankton in water bodies. Do not allow material to be released to the environment without proper governmental permits. Very toxic for aquatic organisms.

Danger to drinking water if even extremely small quantities leak into the ground.

XIII. Disposal Considerations**Product:**

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Disposal must be made according to official regulations.

Recommended Cleansing Agent: Water, if necessary with cleansing agents.

XIV. Transport Information

DOT regulations :

Hazard Class	:	6.1
Identification number	:	UN 2630
Packing group	:	I
Proper shipping name (technical name)	:	Selenates

Land transport ADR / RID (cross-border):

ADR/RID class	:	6.1 Toxic substances
Danger code (Kemler)	:	66
UN Number	:	2630
Packaging group	:	I
Description of goods	:	Selenates (Potassium Selenate)

Maritime transport IMDG:

IMDG Class	:	6.1
UN Number	:	2630
Packaging group	:	I
Proper shipping name	:	Selenates

Air transport ICAO-TI and IATA-DGR:

ICAO / IATA Class	:	6.1
UN / ID Number	:	2630
Packaging group	:	I
Proper shipping name	:	Selenates

XV. Regulatory Information

Product related hazard informations:

Hazard symbols:

T Toxic
 N Dangerous for the environment

Risk phrases:

23/25 Toxic by inhalation and if swallowed.
 33 Danger by inhalation and if swallowed
 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

20/21 When using do not eat, drink or smoke.
 28 After contact with skin, wash immediately with plenty of soap and water
 45 In case of accident or if you feel unwell, seek medical advice immediately.
 60 This material and its container must be disposed of as hazardous waste.
 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

National regulations:

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

Information about limitation of use:

For use only by technically qualified individuals.
 This product contains selenium and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

XVI. Other Information

Employer should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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