



## SAFETY DATA SHEET

Product Name **SELENIUM**

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Supplier Name** IMPACT FERTILISERS AUSTRALIA PTY LTD, IMPACT FERTILISERS PTY LTD  
**Address** 20 Lampton Avenue , Derwent Park , TAS, AUSTRALIA, 7009  
**Telephone** (03) 8622 9922  
**Fax** (03) 8622 9939  
**Emergency** 0447 315 140  
**Email** wnewitt@impactfert.com.au

**Synonym(s)** IMPACT SELENIUM • SELCOTE • SELENIUM • TE-SELENIUM.2 - STOCK CODE

**Use(s)** FERTILISER

**SDS Date** 03 May 2011

### 2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

#### RISK PHRASES

R20/22 Harmful by inhalation and if swallowed.

#### SAFETY PHRASES

S1/2 Keep locked up and out of reach of children.  
S13 Keep away from food, drink and animal feeding stuffs.  
S36 Wear suitable protective clothing.  
S46 If swallowed, contact a doctor or Poisons Information Centre immediately and show container or label.

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

**UN No.** None Allocated      **DG Class** None Allocated      **Subsidiary Risk(s)** None Allocated  
**Packing Group** None Allocated      **Hazchem Code** None Allocated

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
SODIUM SELENATE	O4-Se.2Na	13410-01-0	0.88%
BARIUM SELENATE	Ba-O4-Se	7787-41-9	0.12%
NON HAZARDOUS INGREDIENTS	Not Available	Not Available	>60%

### 4. FIRST AID MEASURES

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. To protect rescuer, use a Full-face Class P3 (Particulate) respirator where an inhalation risk exists. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**Advice to Doctor** Treat symptomatically.

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**First Aid Facilities** Eye wash facilities and safety shower are recommended.

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## 5. FIRE FIGHTING MEASURES

<b>Flammability</b>	Non flammable. May evolve toxic gases (selenium oxides) when heated to decomposition.
<b>Fire and Explosion</b>	Treat as per requirements for Surrounding Fires: Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.
<b>Extinguishing</b>	Prevent contamination of drains or waterways.
<b>Hazchem Code</b>	None Allocated

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## 6. ACCIDENTAL RELEASE MEASURES

<b>Spillage</b>	If spilt (bulk), use personal protective equipment. Clear area of all unprotected personnel. Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Prevent spill entering drains or waterways.
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## 7. STORAGE AND HANDLING

<b>Storage</b>	Store in a cool, dry, well ventilated area, removed from oxidising agents, acids, alkalis, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate fire protection systems. Do not allow to come in contact with water, either from rain, condensation or the surface on which stored. Bagged fertilisers should be stored under cover and out of direct sunlight (which degrades woven polypropylene packs). If stored in the open, do so for short periods only, and cover with a tarpaulin. If stacking is necessary, bulk bags should be stored in a stable manner, preferably in a pyramidal style. Bulk bags should not be stacked more than two high for bags containing 1 000 kg or more, or more than four high for bags containing up to 500 kg. The Pallet Capacity Rating (design weight) should not be exceeded on the bottom tier for other packs. High stacking should be avoided as pressure promotes caking. Store away from farm chemicals, e.g. insecticides, fungicides and herbicides.
<b>Handling</b>	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

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## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

<b>Exposure Stds</b>	SODIUM SELENATE ES-TWA:     0.2 mg/m <sup>3</sup> Selenium	
<b>Biological Limits</b>	No biological limit allocated.	
<b>Engineering Controls</b>	Avoid inhalation. In a laboratory situation use under a fume cupboard or other localised extraction ventilation equipment.	
<b>PPE</b>	Wear rubber or PVC gloves, coveralls and safety glasses. Where an inhalation risk exists, wear: a Class P3 (Particulate) respirator.	



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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	YELLOW/GREEN GRANULES	<b>Solubility (water)</b>	SLIGHTLY SOLUBLE
<b>Odour</b>	SLIGHT ODOUR	<b>Specific Gravity</b>	1.0
<b>pH</b>	NOT AVAILABLE	<b>% Volatiles</b>	NOT AVAILABLE
<b>Vapour Pressure</b>	NOT RELEVANT	<b>Flammability</b>	NON FLAMMABLE
<b>Vapour Density</b>	NOT AVAILABLE	<b>Flash Point</b>	NOT RELEVANT
<b>Boiling Point</b>	NOT AVAILABLE	<b>Upper Explosion Limit</b>	NOT RELEVANT
<b>Melting Point</b>	NOT AVAILABLE	<b>Lower Explosion Limit</b>	NOT RELEVANT
<b>Evaporation Rate</b>	NOT RELEVANT		
<b>Autoignition Temperature</b>	NOT AVAILABLE	<b>Decomposition Temperature</b>	NOT AVAILABLE

**Product Name**     **SELENIUM**

**Partition Coefficient**     NOT AVAILABLE                             **Viscosity**                             NOT AVAILABLE

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**10. STABILITY AND REACTIVITY**

**Chemical Stability**             Stable under recommended conditions of storage.

**Conditions to Avoid**           Avoid heat, sparks, open flames and other ignition sources.

**Material to Avoid**             Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid) and alkalis (eg. hydroxides).

**Hazardous Decomposition Products**             May evolve toxic gases (selenium oxides) when heated to decomposition.

**Hazardous Reactions**         Polymerization is not expected to occur.

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**11. TOXICOLOGICAL INFORMATION**

**Health Hazard Summary**       Moderate toxicity - irritant. This product has the potential to cause adverse health effects with over exposure. Use safe work practices to avoid eye or skin contact and inhalation. Chronic exposure may result in damage to the liver, kidney, heart, and lung. May also result in CNS depression, skin lesions, nail and hair loss and garlic odour to breath.

**Eye**                             Irritant. Contact may result in irritation, lacrimation, pain and redness.

**Inhalation**                   Moderately toxic - irritant. Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in garlic odour on breath, metallic taste, headache, pallor, dizziness, gastrointestinal disturbances, chest pain and breathing difficulties.

**Skin**                            Irritant. Contact may result in irritation, redness, rash and dermatitis.

**Ingestion**                   Moderate toxicity. The main acute symptom is gastrointestinal disturbance. Ingestion may result in garlic odour on breath, metallic taste, nausea, vomiting, abdominal pain, diarrhoea, dizziness and liver/kidney damage. Large doses may cause respiratory or circulatory collapse and death.

**Toxicity Data**                SODIUM SELENATE (13410-01-0)  
LD50 (Ingestion): 1600 ug/kg (rat)  
LD50 (Subcutaneous): 11336 ug/kg (rat)  
LDLo (Intraperitoneal): 8973 ug/kg (rat)  
LDLo (Intravenous): 3600 ug/kg (rabbit)  
TDLo (Ingestion): 53 mg/kg (woman)

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**12. ECOLOGICAL INFORMATION**

**Environment**                It is known that selenium accumulates in living tissues. Fish are efficient concentrators of selenium. Grains may also concentrate selenium present in soil. Conversion of inorganic and organic selenium compounds to volatile and highly toxic selenium compounds (eg dimethyl selenide, dimethyl diselenide) by microorganisms has been observed in some lake sediments.

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**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal**             Insoluble forms may be consigned to approved landfill site. To convert to insoluble (sulphide) form, (wearing PPE, using fume cupboard): Dissolve in minimum concentrated hydrochloric acid (HCl). Filter if necessary. Dilute with water until white precipitate forms. Add more 6M HCl to redissolve. Saturate with hydrogen sulphide. Filter, wash and dry precipitate. Contact the manufacturer.

**Legislation**                 Dispose of in accordance with relevant local legislation.

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**14. TRANSPORT INFORMATION**

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

**Shipping Name**               None Allocated

**UN No.**                       None Allocated     **DG Class**               None Allocated     **Subsidiary Risk(s)**   None Allocated

**Packing Group**             None Allocated     **Hazchem Code**       None Allocated

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**15. REGULATORY INFORMATION**

**Poison Schedule**           Classified as a Schedule 6 (S6) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

**AICS**                         All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

## 16. OTHER INFORMATION

### Additional Information

**EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES:** Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

**RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

#### ABBREVIATIONS:

ACGIH - American Conference of Industrial Hygienists.

ADG - Australian Dangerous Goods.

BEI - Biological Exposure Indice(s).

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

EC No - European Community Number.

HSNO - Hazardous Substances and New Organisms.

IARC - International Agency for Research on Cancer.

mg/m<sup>3</sup> - Milligrams per Cubic Metre.

NOS - Not Otherwise Specified.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

RTECS - Registry of Toxic Effects of Chemical Substances.

STEL - Short Term Exposure Limit.

SWA - Safe Work Australia.

TWA - Time Weighted Average.

#### HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

#### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

### Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

### Prepared By

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au

Product Name **SELENIUM**

SDS Date 03 May 2011

**End of Report**