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

1.1 Product identifier

Trade name **Potassium selenocyanate**

Stock number: 68107
CAS Number: 3425-46-5
EC number: 222-320-1
Index number: 034-002-00-8

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

Identified use: SU24  Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Alfa Aesar
Avocado Research Chemicals, Ltd.
Shore Road
Port of Heysham Industrial Park
Heysham Lancashire LA3 2XY
United Kingdom
Office Tel: +44 (0) 1524 850506
Office Fax: +44 (0) 1524 850608
Email: uktech@alfa.com
www.alfa.com
Informing department: Product safety department.

1.4 Emergency telephone number: Call Carechem 24 at +44 (0) 1865 407333 (English only); +44 (0) 1235 239670 (Multi-language)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS06 skull and crossbones
Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 3 H331 Toxic if inhaled.

GHS08 health hazard
STOT RE 2 H373 May cause damage to the central nervous system, the liver and the digestive system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

GHS09 environment
Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

Other hazards that do not result in classification No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS06 GHS08 GHS09

Signal word Danger

Hazard statements
H301 Toxic if swallowed.
H331 Toxic if inhaled.
H373 May cause damage to the central nervous system, the liver and the digestive system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
PvPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances

CAS# Designation: 3425-46-5 Potassium selenocyanate
Identification number(s): EC number: 222-320-1
Index number: 034-002-00-8

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

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

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.

(Contd. on page 2)
SECTION 3: First aid measures

3.2 Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

- Carbon monoxide and carbon dioxide
- Nitrogen oxides (NOx)
- Possibly Hydrogen cyanide (HCN)
- Selenium dioxide (SeO2)
- Potassium oxide

3.3 Advice for first aid personnel

- Protective equipment: Wear self-contained breathing apparatus.
- Wear full protective suit.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

- If this product is involved in a fire, the following can be released:
  - Carbon monoxide and carbon dioxide
  - Nitrogen oxides (NOx)
  - Possibly Hydrogen cyanide (HCN)
  - Selenium dioxide (SeO2)
  - Potassium oxide

5.3 Advice for firefighters

- Protective equipment: Wear self-contained breathing apparatus.
- Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions:

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

6.3 Methods and material for containment and cleaning up:

- Dispose of contaminated material as waste according to section 13.
- Ensure adequate ventilation.
- Prevention of secondary hazards: No special measures required.

6.4 Reference to other sections

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Handle under dry protective gas.
- Keep containers tightly sealed.
- Store in a cool, dry place in tightly closed containers.
- Ensure good ventilation/exhaustion at the workplace.
- Open and handle container with care.

Information about protection against explosions and fires: No information known.

7.2 Conditions for safe storage, including any incompatibilities

- Storage Requirements to be met by storerooms and containers: No special requirements.
- Information about storage in one common storage facility:
  - Store away from water.
  - Do not store together with acids.
  - Store away from oxidising agents.
- Further information about storage conditions:
  - Store under dry inert gas.
  - This product is moisture sensitive.
  - Keep container tightly sealed.
  - Store in cool, dry conditions in well sealed containers.
  - Protect from humidity and keep away from water.
  - Store in a locked cabinet or with access restricted to technical experts or their assistants.

7.3 Specific end use(s):

- No further relevant information available.

SECTION 8: 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.

8.1 Control parameters

- Components with critical values that require monitoring at the workplace:
  - 3425-46-5 Potassium selenocyanate (100.0%)
  - WEL (L) Long-term value: 0.1 mg/m³ as Se

Additional information: No data

8.2 Exposure controls

- Personal protective equipment:
  - General protective and hygienic measures:
    - The usual precautionary measures should be adhered to in handling the chemicals.
    - Keep away from foodstuffs, beverages and food.
    - Instantly remove any soiled and impregnated garments.
    - Wash hands during breaks and at the end of the work.
    - Store protective clothing separately.
    - Maintain an ergonomically appropriate working environment.
  - Breathing equipment: Use self-contained respiratory protective device in emergency situations.
  - Protection of hands:
    - Check protective gloves prior to each use for their proper condition.
    - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
    - Penetration time of glove material (in minutes) Not determined
    - Eye protection: Safety glasses
    - Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- General Information
- Appearance:
  - Form: Crystalline

(Contd. on page 3)
Trade name Potassium selenocyanate

38.0.2 Colour: White to cream
Smell: Odourless
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition
Melting point/Melting range: 162-164 °C
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined
Inflammability (solid, gaseous) Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Self-inflammability: Not determined.

Danger of explosion: Not determined.
Critical values for explosion:
Lower: Not determined
Upper: Not determined
Steam pressure: Not applicable.
Density at 20 °C 2.347 g/cm³
Relative density: Not determined.
Vapour density: Not applicable.
Evaporation rate: Not applicable.
Solubility in / Miscibility with
Water: Soluble
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
dynamic: Not applicable.
kinematic: Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity No information known.
10.2 Chemical stability Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions Reacts with strong oxidising agents
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials:
Acids
Water/moisture
Oxidising agents
10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Possibly Hydrogen cyanide (HCN)
Selenium dioxide (SeO2)
Potassium oxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity:
Toxic if inhaled.
Toxic if swallowed.
Sensitization: No sensitizing effect known.
Germ cell mutagenicity: No effects known.
Carcinogenicity:
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.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure:
May cause damage to the central nervous system, the liver and the digestive system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: No effects known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity: No further relevant information available.
12.2 Persistence and degradability No further relevant information available.
12.3 Bioaccumulative potential: No further relevant information available.
12.4 Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Very toxic for fish
Additional ecological information:
General notes:
Do not allow material to be released to the environment without proper governmental permits.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Vary toxic for aquatic organisms
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation
Hand over to disposers of hazardous waste.
SECTION 14: Transport information

UN-Number
ADR, IMDG, IATA
UN3283

14.2 UN proper shipping name
ADR
3283 SELENIUM COMPOUND, SOLID, N.O.S. (Potassium selenocyanate)
IMDG, IATA
SELENIUM COMPOUND, SOLID, N.O.S. (Potassium selenocyanate)

14.3 Transport hazard class(es)
ADR
Class
6.1 (T5) Toxic substances.
Label
6.1
IMDG, IATA
Class
6.1 Toxic substances.
Label
6.1

14.5 Environmental hazards:
Environmentally hazardous substance, solid

14.6 Special precautions for user
Kemler Number:
60
EMS Number:
F-A,S-A

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

Transport/Additional information:
ADR
Excepted quantities (EQ):
E4
Limited quantities (LQ)
500 g
Transport category
2
Tunnel restriction code
D/E

UN "Model Regulation":
UN3283, SELENIUM COMPOUND, SOLID, N.O.S. (Potassium selenocyanate), 6.1, II

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Australian Inventory of Chemical Substances Substance is listed.
Standard for the Uniform Scheduling of Drugs and Poisons Substance is not listed.
National regulations
Information about limitation of use:
Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Technical instructions (air):
Class Share in %
II 100.0

Other regulations, limitations and prohibitive regulations
ELINCS (European List of Notified Chemical Substances) Substance is not listed.
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006 Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement 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.

Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)