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

1.1 Product identifiers

Product name: Selenic acid solution

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

Identified uses: Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
- Acute toxicity, Oral (Category 3)
- Acute toxicity, Inhalation (Category 3)
- Specific target organ toxicity - repeated exposure (Category 2)
- Acute aquatic toxicity (Category 1)
- Chronic aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC
- Toxic by inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Danger of cumulative effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word Danger

Hazard statement(s)
- H301 Toxic if swallowed.
- H331 Toxic if inhaled.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P273 Avoid release to the environment.
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
- P311 Call a POISON CENTER or doctor/ physician.
- P501 Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements
- none


Hazard symbol(s)

R-phrase(s)
- R23/25 Toxic by inhalation and if swallowed.
- R33 Danger of cumulative effects.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)
- S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selenic acid</td>
<td>Acute Tox. 3; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H301, H331, H373, H410 T, N, R23/25 - R33 - R50/53</td>
<td>40 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>EC-No.</td>
<td></td>
</tr>
<tr>
<td>7783-08-6</td>
<td>231-979-4</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>-</td>
<td>60 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>EC-No.</td>
<td></td>
</tr>
<tr>
<td>7732-18-5</td>
<td>231-791-2</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

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

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Selenium/selenium oxides

5.3 Precautions for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the
environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses
no data available

8. EXPOSURE CONTROLS/PERSO NAL PROTECTION

8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection
Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: liquid
b) Odour no data available
c) Odour Threshold no data available
d) pH no data available
e) Melting/freezing point no data available
f) Initial boiling point and 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 or explosive limits no data available
k) Vapour pressure no data available
l) Vapour density no data available
m) Relative density 1,407 g/mL at 25 °C
n) Water solubility no data available
o) Partition coefficient: n-octanol/water no data available
p) Autoignition temperature no data available
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 safety information no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity no data available

10.2 Chemical stability no data available

10.3 Possibility of hazardous reactions no data available

10.4 Conditions to avoid no data available

10.5 Incompatible materials no data available

10.6 Hazardous decomposition products
   Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

   Acute toxicity
   Skin corrosion/irritation no data available

   Serious eye damage/eye irritation no data available

   Respiratory or skin sensitization no data available

   Germ cell mutagenicity no data available

   Carcinogenicity
   IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Selenic acid)

   Reproductive toxicity
Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation  Toxic if inhaled. Causes respiratory tract irritation.
Ingestion  Toxic if swallowed.
Skin  Harmful if absorbed through skin. Causes skin irritation.
Eyes  Causes eye burns.

Additional Information
RTECS: Not available

12. ECOLOGICAL INFORMATION
12.1 Toxicity
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
no data available

12.6 Other adverse effects
Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS
13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION
14.1 UN-Number
ADR/RID: 3264  IMDG: 3264  IATA: 3264

14.2 UN proper shipping name
ADR/RID:  CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
IMDG:  CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
IATA:  Corrosive liquid, acidic, inorganic, n.o.s.

14.3 Transport hazard class(es)
ADR/RID:  8  IMDG:  IATA: 8

14.4 Packaging group
ADR/RID:  I  IMDG: I  IATA: I

14.5 Environmental hazards
ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for users
no data available
15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
no data available

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

<table>
<thead>
<tr>
<th>Acute Tox.</th>
<th>Aquatic Acute</th>
<th>Aquatic Chronic</th>
<th>H301</th>
<th>H31</th>
<th>H373</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Acute aquatic toxicity</td>
<td>Chronic aquatic toxicity</td>
<td>Toxic if swallowed.</td>
<td>Toxic if inhaled.</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>H410</th>
<th>STOT RE</th>
<th>N</th>
<th>R23/25</th>
<th>R33</th>
<th>R50/53</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very toxic to aquatic life with long lasting effects.</td>
<td>Specific target organ toxicity - repeated exposure</td>
<td>Dangerous for the environment</td>
<td>Toxic by inhalation and if swallowed.</td>
<td>Danger of cumulative effects.</td>
<td>Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
</tr>
</tbody>
</table>

T Toxic

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 this document is based on the resent 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. guidechem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.