1 Identification of substance:

Product details:

Product name: **Potassium thiocyanate**

Stock number: 
A13731 
L10686

Manufacturer/Supplier:
Alfa Aesar, A Johnson Matthey Company 
Johnson Matthey Catalog Company, Inc. 
30 Bond Street 
Ward Hill, MA 01835-8099 
Emergency Phone: (978) 521-6300 
CHEMTREC: (800) 424-9300 
Web Site: www.alfa.com 

Information Department: Health, Safety and Environmental Department 

Emergency information: 
During normal hours the Health, Safety and Environmental Department. 
After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization: 
Description: (CAS#)

Potassium thiocyanate (CAS# 333-20-0): 100%

Identification number(s): 
EINECS Number: 206-370-1 
EU Number: 615-004-00-3

3 Hazards identification

Hazard description:

Xn Harmful
N Dangerous for the environment

Information pertaining to particular dangers for man and environment

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed. 
R 32 Contact with acids liberates very toxic gas. 
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

| HEALTH | 2 | Health (acute effects) = 2 |
| FIRE | 1 | Flammability = 1 |
| REACTIVITY | 1 | Reactivity = 1 |

4 First aid measures

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

(Contd. on page 2)
### Material Safety Data Sheet

*acc. to OSHA and ANSI*

**Product name: Potassium thiocyanate**

(Contd. of page 1)

<table>
<thead>
<tr>
<th><strong>After skin contact</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediately wash with water and soap and rinse thoroughly.</td>
<td>Seek immediate medical advice.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>After eye contact</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rinse opened eye for several minutes under running water. Then consult a doctor.</td>
<td></td>
</tr>
</tbody>
</table>

| **After swallowing** | Seek immediate medical advice. |

### 5 Fire fighting measures

**Suitable extinguishing agents**
Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards caused by the material, its products of combustion or resulting gases:**
- In case of fire, the following can be released:
  - Carbon monoxide and carbon dioxide
  - Sulfur oxides (SOx)
  - Nitrogen oxides (NOx)

**Protective equipment:**
- Wear self-contained respirator.
- Wear fully protective impervious suit.

### 6 Accidental release measures

**Person-related safety precautions:**
- Mount respiratory protective device.
- 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 permits.

**Measures for cleaning/collection:**
- Dispose contaminated material as waste according to item 13.
- Ensure adequate ventilation.

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

### 7 Handling and storage

**Handling**

**Information for safe handling:**
- Keep container tightly sealed.
- Store in cool, dry place in tightly closed containers.
- Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:**
- Keep ignition sources away.

**Storage**

**Requirements to be met by storerooms and receptacles:**
- No special requirements.

**Information about storage in one common storage facility:**
- Do not store together with acids.
- Store away from water/moisture.

(Contd. on page 3)
8 Exposure controls and 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:
Not required.

Additional information: No data

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.
Avoid contact with the eyes and skin.

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

Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.

Material of gloves
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Crystalline</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
</tbody>
</table>

Change in condition

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/Melting range</td>
<td>172.3°C (342°F)</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>500°C (932°F) (dec)</td>
</tr>
<tr>
<td>Sublimation temperature / start</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Flash point:
Not applicable

Ignition temperature:
Not determined

Decomposition temperature:
Not determined

Danger of explosion:
Product does not present an explosion hazard.

Explosion limits:

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined</td>
</tr>
</tbody>
</table>
10 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
Water/moisture
Oxidizing agents

Dangerous reactions
Contact with acids liberates very toxic gas.
Many isocyanates and thiocyanates react with water or acids to produce very toxic hydrogen cyanide gas.

Dangerous products of decomposition:
Carbon monoxide and carbon dioxide
Sulfur oxides (SOx)
Nitrogen oxides

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50 (mg/kg)</th>
<th>LC50 (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>594 (mus)</td>
<td>854 (rat)</td>
</tr>
<tr>
<td></td>
<td>80 (hm)</td>
<td></td>
</tr>
</tbody>
</table>

Primary irritant effect:
on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Other information (about experimental toxicology):
Reproductive effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:

Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:
Behavioral - hallucinations, distorted perceptions.
Behavioral - convulsions or effect on seizure threshold.
Behavioral - muscle weakness.
Behavioral - toxic psychosis.
Behavioral - tetany.
Gastrointestinal - ulceration or bleeding from stomach.
Gastrointestinal - gastritis.
Lungs, Thorax, or Respiration - dyspnea.
Lungs, Thorax, or Respiration - acute pulmonary edema.
Liver - other changes.
Kidney, Ureter, Bladder - other changes in urine composition.
Endocrine - changes in thyroid weight.
Blood - other changes.
Product name: Potassium thiocyanate

Nutritional and Gross Metabolic - weight loss or decreased weight gain.
Related to Chronic Data - death.
Reproductive - Specific Developmental Abnormalities - endocrine system
Subacute to chronic toxicity:
Thiocyanates have variable toxicity. They are not normally dissociated
into cyanide. Prolonged absorption may produce skin eruptions, running
nose, and occasionally dizziness, cramps, nausea, vomiting and mild or
severe disturbances of the nervous system. Thiocyanates emit cyanide on
contact with acids.

Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this
substance is not fully known.
Danger through skin absorption.
No classification data on carcinogenic properties of this material is
available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

Ecotoxicological effects:
Remark: Very toxic for fish
General notes:
Do not allow product to reach ground water, water course or sewage
system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the
ground.
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

13 Disposal considerations

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

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information
Not a hazardous material for transportation.

DOT regulations:
Hazard class: None

Land transport ADR/RID (cross-border)
ADR/RID class: None

Maritime transport IMDG:
IMDG Class: None

Air transport ICAO-TI and IATA-DGR:
ICAO/IATA Class: None
Material Safety Data Sheet
acc. to OSHA and ANSI

Product name: Potassium thiocyanate

Transport/Additional information:
Not dangerous according to the above specifications.

15 Regulations

Product related hazard informations:

Hazard symbols:
Xn Harmful
N Dangerous for the environment

Risk phrases:
20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
32 Contact with acids liberates very toxic gas.
50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety phrases:
13 Keep away from food, drink and animal feedingstuffs.
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.
All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use:
For use only by technically qualified individuals.

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 MSDS: Health, Safety and Environmental Department.
Contact: Paul V. Connolly