Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 08/07/2009 Reviewed on 08/06/2009

1 Identification of substance:

Product details:

Product name: Semicarbazide hydrochloride

Stock number:
A11668
L04871

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#)
Semicarbazide hydrochloride (CAS# 563-41-7)
Identification number(s):
EINECS Number: 209-247-0

3 Hazards identification

Hazard description:

T Toxic

Information pertaining to particular dangers for man and environment
R 25 Toxic if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

HEALTH	2
FIRE	1
REACTIVITY	1

Health (acute effects) = 2
Flammability = 1
Reactivity = 1

GHS label elements

Danger

3.1/3 - Toxic if swallowed.
3.2/2 - Causes skin irritation.
3.3/2A - Causes serious eye irritation.
3.8/3 - May cause respiratory irritation.
Prevention:
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do no eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment (see on this label).
Rinse mouth.
If skin irritation occurs: Get medical advice/attention.

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If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.

4 First aid measures

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.
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
Nitrogen oxides (NOx)
Hydrogen cyanide (HCN)
Hydrogen chloride (HCl)
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 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 permits.
Measures for cleaning/collecting:
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: No special measures required.

Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Store away from oxidizing agents.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

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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.
Breathing equipment: Use suitable respirator when high concentrations are present.
Protection of hands: Impervious gloves
Eye protection: Safety glasses
Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information	
Form:	Crystalline powder
Color:	White
Odor:	Odorless
Change in condition	
Melting point/Melting range:	176°C (349°F) (dec)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flash point:	Not applicable
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density:	Not determined
Solubility in / Miscibility with	
Water at 20°C (68°F):	>100 g/l
pH-value (100 g/l) at 20°C (68°F):	1.5

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: Oxidizing agents
Dangerous reactions No dangerous reactions known
Dangerous products of decomposition:
Carbon monoxide and carbon dioxide
Nitrogen oxides
Hydrogen chloride (HCl)
Hydrogen cyanide (prussic acid)

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:		
Oral	LD50	225 mg/kg (mouse) 123 mg/kg (rat)

Primary irritant effect:
on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.
Sensitization: No sensitizing effects known.

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Other information (about experimental toxicology):
Tumorigenic effects have been observed in tests with laboratory animals at very high doses
Reproductive effects have been observed on tests with laboratory animals.
Subacute to chronic toxicity:
Semicarbazide hydrochloride is moderately to highly toxic causing somnolence, excitement, or ataxia if ingested. Reproductive effects have also occurred with small doses in laboratory animal experiments. Repeated use may cause weight loss followed by death.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

General notes:
Do not allow product to reach ground water, water course or sewage system.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Do not allow material to be released to the environment without proper governmental permits.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

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

DOT regulations:

Hazard class:	6.1
Identification number:	UN2811
Packing group:	III
Proper shipping name (technical name):	TOXIC SOLID, ORGANIC, N.O.S. (Semicarbazide hydrochloride)
Label	6.1

Land transport ADR/RID (cross-border)

ADR/RID class:	6.1 (T2) Toxic substances
Danger code (Kemler):	60
UN-Number:	2811
Packaging group:	III
Description of goods:	2811 TOXIC SOLID, ORGANIC, N.O.S. (Semicarbazide hydrochloride)

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Maritime transport IMDG:

IMDG Class:	6.1
UN Number:	2811
Label	6.1
Packaging group:	III
Marine pollutant:	No
Proper shipping name:	TOXIC SOLID, ORGANIC, N.O.S. (Semicarbazide hydrochloride)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class:	6.1
UN/ID Number:	2811
Label	6.1
Packaging group:	III
Proper shipping name:	TOXIC SOLID, ORGANIC, N.O.S. (Semicarbazide hydrochloride)

UN "Model Regulation": UN2811, TOXIC SOLID, ORGANIC, N.O.S., 6.1, III

15 Regulations

Product related hazard informations:

Hazard symbols:
T Toxic

Risk phrases:
25 Toxic if swallowed.
36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37 Wear suitable protective clothing and gloves.
45 In case of accident or if you feel unwell, seek medical advice immediately.

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.

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: Zachariah Holt
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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
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)
HMIS: Hazardous Materials Identification System (USA)

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LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent