



JUNSEI

Material safety data sheet

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Catalog Numbers: 20252

Catalog Name: Semicarbazide hydrochloride

Company Identification:

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CREATION DATE: December 20, 2012

SECTION 2 HAZARDS IDENTIFICATION

Human health hazard

Acute toxicity Oral	: Category 3
Germ cell mutagenicity	: Out of Category
Reproductive toxicity	: Category 2
Specific target organ systemic toxicity(repeated exposure)	: Category 2(bone)

Pictograms or symbol



Signal word : Danger

Hazard statement : Toxic if swallowed.

Suspected of damaging fertility or the unborn child.

May cause damage to organs (bone) through prolonged or repeated exposure.

Cautions

Safety measurements :

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use personal protective equipment as required.

First-aid measures :

- IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER or doctor/physician.
- IF exposed or concerned: Get medical advice/attention.

- Get medical advice/attention if you feel unwell.:
- Storage
- Store locked up.
- Disposal
- Dispose of contents and containers appropriately in accordance with related regulations.

SECTION 3 COMPOSITION, INFORMATION ON INGREDIENTS

Substance/Mixture : Substance
Component : Semicarbazide hydrochloride
Chemical formula : $H_2NNHCONH_2 \cdot HCl$
Cas number : 563-41-7, 57 - 56 - 7(free)
US TSCA inventory : Registered
EC number (EINECS): 209-247-0
JAPAN number (ENCS) : 1-215, 2-1744
Percentage : (GR) 99.0 +%

SECTION 4 FIRST AID MEASURES

If inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
If on skin : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes : Rinse cautiously with water for several minutes. Remove contact lenses ,if present and easy to do. Continue rinsing. If eyes irritation persists, get medical advice/attention.
If swallowed : Rinse mouth. Call a POISON CENTER or doctor/physician.

SECTION 5 FIRE FIGHTING MEASURES

Extinguishing media : Water spray, dry chemical powder, Alcohol-resistant foam.
Prohibited extinguishing media : No data available.
Particular fire fighting : Move containers form fire area if it can be done without risk, if not possible, apply water form a safe distance to cool and protect surrounding area.
Protection for firefighters : Firefighters should wear protective equipment.

SECTION 6 ACCIDENTAL RELEASE MEASURES

General Information : Use proper personal protective equipment as indicated in Section 8.
Cautions for environment : Avoid release to the rivers, lakes, ocean, groundwater.
Spills/Leak : Sweep spilled substance into covered sealable containers. Carefully collect remainder.

SECTION 7 HANDLING AND STORAGE

Handling : Avoid breathing dust, fumes. Avoid contact with skin and eyes.
Use only in a chemical fume hood.

Do not eat, drink or smoke when using this product.

Storage : Store locked up. Store in a cool.
Store in a tightly closed container.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls : Use adequate ventilation to keep airborne concentrations low.

ACGIH (2010) : Not established

OELs (2011) : Not established

Personal protective equipment :

Eye Protection : Goggles

Hand Protection : Protective gloves

Skin and body protection : Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection : Wear respiratory protection.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State : Solid

Appearance : White crystals

Odor : Odorless

pH : No data available.

Freezing/Melting Point : 175 ~ 177 (dec)

Boiling Point : No data available.

Flash Point : No data available.

Explosion Limits, lower ~ upper : No data available.

Vapor Pressure : No data available.

Vapor Density (Air = 1) : No data available.

Specific Gravity/Density : No data available.

Solubility in water : Freely soluble

Octanol/Water Partition Coefficient : log Kow = -2.75

Autoignition Temperature : No data available.

Decomposition Temperature : No data available.

Molecular Formula : $\text{CH}_5\text{N}_3\text{O} \cdot \text{HCl}$

Molecular Weight : 111.53

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability : Stable in ordinary handling conditions.

Conditions to Avoid : No data available.

Incompatibilities with Other Materials : No data available.

Hazardous Decomposition Products: Nitrogen oxides , Hydrogen chloride

Hazardous Polymerization : Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute toxicity:

Oral : Classified into category 3 based on the mouse LD_{50} =225mg/kg (HSDB).

Dermal : Not possible to classify because of no data.

Gas : Not applicable (GHS definition).

Vapours : Not possible to classify because of no data.

Dusts and mists: Not possible to classify because of no data.

Skin corrosion/Irritation: Not possible to classify because of no data.

Serious eye damage/eye irritation: Not possible to classify because of no data.

Respiratory sensitization: Not possible to classify because of no data.

Skin sensitization: Not possible to classify because of no data.

Mutagenicity: Classified as out of category based on the negative data on mutagenicity tests in vivo (mouse micronucleus test) and the negative data on genotoxicity test in vivo, described in Risk assessment reports of Veterinary medicines(Nitrofurans) (2007).

Carcinogenic effects: Classified as " Unclassifiable " based on the fact that the substance is classified as Group 3 by (IARC supplement 7 (1987)).

Effects on the reproductive system: Classified as category 2 based on the description in the HSDB : " Administration of 50 or 100 mg/day to pregnant SD rats on days 10-16 of gestation produced high incidence of resorption in dams and of cleft palates in pups. "
" Five groups of pregnant rats were injected intraperitoneally (ip) with 0, 50, 75, 100, or 150 mg/kg of semicarbazide hydrochloride (SC) dissolved in 1 mL saline, on days 5, 7, 10, 13, or 15 of gestation. Most abnormalities in the 21-day-old fetuses were found in the brain, kidney, intestines, or liver. "
" A high percentage of hydronephrosis appeared in the fetuses whose mothers were treated during development period. A statistically significant decrease in the number of implantations and live fetuses resulted from treatment with 17 mg/kg/day SC throughout gestation. "

Specific target organ systemic toxicity single exposure
: Not possible to classify because of no data.

Specific target organ systemic toxicity repeated exposure
: Classified as category 2 (bone) based on the description in the report (Food and Chemical Toxicology 47 (2009)): " A ninety-day toxicity study of semicarbazide hydrochloride (SEM-HCl) was conducted in male and female Wistar Hannover GALAS rats fed diet containing the compound at concentration of 0, 250, 500 and 1000 ppm. Enlargement and deformation of knee joints were obvious at 500 and 1000 ppm from week 3, together with deformation of the thorax and tail. Histopathologically, disarrangement of chondrocytes and fissures in the cartilage matrix were apparent at all doses tested in epiphyseal and articular cartilage. The severity of these lesions increased dose-dependently, accompanied by increased connective tissues and bone deformation at high doses. . "

Aspiration hazard : Not possible to classify because of no data.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity:

Hazardous to the aquatic environment (acute) : Not possible to classify because of no data.

Hazardous to the aquatic environment (chronic): Not possible to classify because of no data.

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

SECTION 14 TRANSPORT INFORMATION

IATA Shipping Name: Toxic Solid, organic,n.o.s.
Hazard Class: 6.1 (Toxic substances)
UN Number: 2811
Packing Group:
IMO Shipping Name: TOXIC SOLID,ORGANIC, N.O.S.
Hazard Class: 6.1 (Toxic substances)
UN Number: 2811
Packing Group:
RID/ADR Shipping Name: Toxic solid, organic,n.o.s.
Hazard Class: 6.1 (Toxic substances)
UN Number: 2811
Packing Group:

SECTION 15 REGULATORY INFORMATION

Fire Service Act : Article 2, Category self-reactive substances
(vii) hydrazine derivatives
Poisonous and Deleterious Substances Control Act: Not regulated
Industrial Safety and Health Act: Not regulated
Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the
Environment and Promotion of Improvements to the Management Thereof (MSDS
required) (Effective from October 1, 2009): Not regulated
Ordinance for Enforcement of the Civil Aeronautics Act
: Article 194 () Toxic substances
Regulations for the carriage and storage of dangerous goods in ship
: Article 2 Toxic substances

Substance Registration :
Australia (AICS) : Registration
Canada(DSL) : Registration
Korea number (ECL) : KE-19983
China(IECSC) : Registration

SECTION 16 OTHER INFORMATION

REFERENCES:

- The Merck Index 14 edition, Monographs No. 08444
- Chemical Risk Information Platform (CHRIP)
- Information about the status of the implementation of GHS in Japan (ID= 22A4069)
- GHS Classification Guidance for the Japanese Government 2nd revised (March, 2010).
- Registry of Toxic Effects of Chemical Substances, No. RTECS: VT3500000 (Semicarbazide, monohydrochloride))
- Hazardous Substances Data Bank (HSDB)

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 in this document is based on the present 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.

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