Chemical Safety Data Sheet MSDS / SDS

Antu SDS

Revision Date:2024-04-25 Revision Number:1

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

Product identifier

Product name: Antu

CAS: 86-88-4

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Acute toxicity - Category 2, Oral
Carcinogenicity, Category 2

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H300 Fatal if swallowed
H351 Suspected of causing cancer

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P203 Obtain, read and follow all safety instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

Response

P301+P316 IF SWALLOWED: Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P330 Rinse mouth.
P318 IF exposed or concerned, get medical advice.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Antu
Common names and synonyms:	Antu
CAS number:	86-88-4
EC number:	201-706-3
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Give a slurry of activated charcoal in water to drink. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention .

Most important symptoms/effects, acute and delayed

Moderately toxic: probable oral lethal dose (human) 0.5-5 gm/kg, or between 1 ounce and 1 pint (or l lb.) for 150 lb. person. Chronic sublethal exposure may cause antithyroid activity. Can produce hyperglycemia of three times normal in three hours. People with chronic respiratory disease or liver disease may be especially at risk. (EPA, 1998)

Indication of immediate medical attention and special treatment needed, if necessary

Treatment includes gastrointestinal decontamination with activated charcoal, supportive care, and monitoring of electrolytes and

glucose. Pulmonary edema may be delayed up to 72 hours. Patients ingesting more than 5 mg/kg body weight should be admitted for observation.

SECTION 5: Firefighting measures

Suitable extinguishing media

If material on fire or involved in fire: Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty). Use water in flooding quantities as fog. Use foam, dry chemical, or carbon dioxide. Keep run-off water out of sewers and water sources. Naphthylthiourea

Specific hazards arising from the chemical

Emits sulfur dioxide, oxides of nitrogen, and carbon monoxide fumes upon decomposition. It reacts with silver nitrate and strong oxidizers. Avoid decomposing heat. (EPA, 1998)

Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

Ventilate area of spill. For small quantities, sweep onto paper or other suitable material, place in appropriate container and burn in safe place (such as fume hood). Large quantities may be reclaimed ... If not practical, dissolve in flammable solvent ... and atomize in ... combustion chamber ...

SECTION 7: Handling and storage

Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Separated from strong oxidants, silver nitrate and food and feedstuffs.Separated from strong oxidants, silver nitrate, food and feedstuffs.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: 0.3 mg/m3, as TWA; (skin); A4 (not classifiable as a human carcinogen).MAK: skin absorption (H); carcinogen category: 3B

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles, face shield or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Antu is a white crystal or powder; technical product is gray powder. Has no odor but a bitter taste. Used primarily as a rodenticide for control of adult Norway rats. Not produced commercially in the U.S. (EPA, 1998)
Colour:	Prisms from alcohol
Odour:	Odorless
Melting point/freezing point:	193°C
Boiling point or initial boiling point and boiling range:	377.6°C at 760 mmHg
Flammability:	Noncombustible Solid
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	182.1°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	0.06 % (NIOSH, 2016)

Partition coefficient n-octanol/water:	log Kow = 1.65
Vapour pressure:	0 mm Hg at 77° F (EPA, 1998)
Density and/or relative density:	1.333 g/cm3
Relative vapour density:	6.99 (EPA, 1998) (Relative to Air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating. This produces toxic gases and toxic fumes including nitrogen oxides, sulfur oxides and carbon monoxide. Reacts with strong oxidants such as silver nitrate. This generates fire and explosion hazard.

Chemical stability

Stable on exposure to air and to sunlight.

Possibility of hazardous reactions

To fight fire use:/Powder, water spray, foam, carbon dioxide.ANTU is incompatible with the following: Strong oxidizers, silver nitrate (NIOSH, 2016).

Conditions to avoid

no data available

Incompatible materials

Incompatibilities: Contact with strong oxidizers may cause fires and explosions.

Hazardous decomposition products

Hazardous decomposition products include: sulfur dioxide, oxides of nitrogen, and carbon monoxide.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 3 mg/kg

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

EVALUATION: The available data were inadequate to evaluate the carcinogenicity of 1-naphthylthiourea to exptl animals. No data on humans were avail. The avail data are insufficient to evaluate the carcinogenicity of 1-naphthylthiourea to humans.

Reproductive toxicity

no data available

STOT-single exposure

Exposure could cause lung oedema. Medical observation is indicated.

STOT-repeated exposure

no data available

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

no data available

Bioaccumulative potential

An estimated BCF of 5.7 was calculated in fish for alpha-naphthylthiourea(SRC), using a log Kow of 1.65(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of alpha-naphthylthiourea can be estimated to be 3600(SRC). According to a classification scheme(2), this estimated Koc value suggests that alpha-naphthylthiourea is expected to have slight mobility in soil. The pKa of alpha-naphthylthiourea is estimated as 9.47(3), indicating that this compound will exist partially in anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(4).

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN2902 (For reference only, please check.)
IMDG: UN2902 (For reference only, please check.)
IATA: UN2902 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: PESTICIDE, LIQUID, TOXIC, N.O.S. (For reference only, please check.)
IMDG: PESTICIDE, LIQUID, TOXIC, N.O.S. (For reference only, please check.)
IATA: PESTICIDE, LIQUID, TOXIC, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)
IMDG: 6.1 (For reference only, please check.)
IATA: 6.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: I (For reference only, please check.)
IMDG: I (For reference only, please check.)
IATA: I (For reference only, please check.)

Environmental hazards

ADR/RID: No
IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Not Listed.

(PICCS)

Not Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Not Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Commonly present impurities can change the toxicological properties of this substance; consult an expert.Technical product is a blue-grey powder.Temperature of decomposition is unknown in the literature.Do NOT take working clothes home.