SAFETY DATA SHEET

Updated on 26/09/2024

1. Material Identification

Product Name : Hydrazine, 1,1-dimethyl-
Catalog Number : io-2498
CAS Number : 57-14-7
Identified uses : Laboratory chemicals, manufacture of chemical compounds
Company : Ionz

>> R&D Use only

2. Hazards Identification

GHS Classification:

Flammable liquid (category 2)
Acute toxicity, oral (Category 3)
Acute toxicity, dermal (Category 3)
Acute toxicity, inhalation (Category 3)
Specific target organ toxicity, single exposure (Category 1)

Pictogram(s)

GHS Hazard Statements

>> H225 (100%): Highly Flammable liquid and vapor [Danger Flammable liquids]

>> H301+H311+H331 (66.7%): Toxic if swallowed, in contact with skin or if inhaled [Danger Acute toxicity, oral; acute toxicity, dermal; acute toxicity, inhalation]

>> H301 (100%): Toxic if swallowed [Danger Acute toxicity, oral]

>> H311 (68.4%): Toxic in contact with skin [Danger Acute toxicity, dermal]

>> H314 (100%): Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]

>> H331 (100%): Toxic if inhaled [Danger Acute toxicity, inhalation]

>> H335 (68.4%): May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation]

>> H350 (100%): May cause cancer [Danger Carcinogenicity]

>> H411 (100%): Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment, long-term hazard]

Precautionary Statement Codes

>> P203, P210, P233, P240, P241, P242, P243, P260, P261, P262, P264, P270, P271, P273, P280, P301+P316, P301+P330+P331, P302+P352, P302+P361+P354, P303+P361+P353, P304+P340, P305+P354+P338, P316, P318, P319, P321, P330, P361+P364, P363, P370+P378, P391, P403+P233, P403+P235, P405, and P501

NFPA 704 Diamond

NFPA Health Rating

>> 4 - Materials that, under emergency conditions, can be lethal.

NFPA Fire Rating

>> 3 - Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions.

NFPA Instability Rating

>> 1 - Materials that in themselves are normally stable but that can become unstable at elevated temperatures and pressures.

Highly Hazardous Substance:

This section provides information on this chemical as a highly hazardous substance (due to potential safety and hazards issues from its high toxicity and/or reactivity). The information in this section is from two sources: (1) Annex XVII to REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) from the European Chemicals Agency (ECHA), (2) ECHA's Candidate List of Substances of Very High Concern (SVHC) for Authorisation and (3) the List of Highly Hazardous Chemicals, Toxics and Reactives (29 CFR 1910.119 Appendix A).

OSHA Highly Hazardous Chemicals, Toxics and Reactives

>> Chemical: Dimethylhydrazine, 1,1-

>> Threshold: 1000 [lb]

>> Note: Dimethylhydrazine, 1,1- in quantities at or above above 1000lb presents a potential for a catastrophic event as a toxic or reactive highly hazardous chemical.

Health Hazards:

>> This compound exhibits high acute toxicity as a result of exposure by all routes. Death or permanent injury may result after very short exposure to small quantities. Chronic exposure may cause pneumonia, liver damage, and kidney damage. (EPA, 1998)

>> Vapor may explode if ignited in an enclosed area. Vapors may travel to a source of ignition and flashback. Runoff to sewer may create fire or explosion hazard. When it decomposes, 1,1-dimethylhydrazine gives off toxic nitrogen compound fumes. Dissolves, swells, and disintegrates many plastics. Dangerous when exposed to heat, flame, or oxidizers. Hazardous polymerization may not occur. (EPA, 1998)

>> Highly flammable. Gives off irritating or toxic fumes (or gases) in a fire. Vapour/air mixtures are explosive. Risk of fire and explosion on contact with oxidants.

3. Composition/Information On Ingredients

Chemical name : Hydrazine, 1,1-dimethyl-
CAS Number : 57-14-7
Molecular Formula : C2H8N2
Molecular Weight : 60.1000 g/mol

4. First Aid Measures

First Aid:

>> Warning: Effects may be delayed for hours to days. Caution is advised.

>> Signs and Symptoms of Acute Dimethylhydrazine Exposure: Signs and symptoms of acute exposure to dimethylhydrazine may include eye irritation, facial numbness, facial swelling, and increased salivation. Headache, twitching, seizures, convulsions, and coma may also occur. Gastrointestinal effects include anorexia, nausea, and vomiting. Pulmonary edema and hypotension (low blood pressure) are common. Dimethylhydrazine is toxic to the liver, ruptures red blood cells, and may cause kidney damage. Dermal contact may result in strong skin and mucous membrane irritation.

>> Emergency Life-Support Procedures: Acute exposure to dimethylhydrazine may require decontamination and life support for the victims. Emergency personnel should wear protective clothing appropriate to the type and degree of

contamination. Air-purifying or supplied-air respiratory equipment should also be worn, as necessary. Rescue vehicles should carry supplies such as dimethylhydrazine-resistant sheeting and disposable bags to assist in preventing spread of contamination.

>> Inhalation Exposure:

>> 1. Move victims to fresh air. Emergency personnel should avoid self-exposure to dimethylhydrazine.

>> 2. Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.

>> 3. Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.

>> 4. Transport to a health care facility.

>> Dermal/Eye Exposure:

>> 1. Remove victims from exposure. Emergency personnel should avoid self- exposure to dimethylhydrazine.

>> 3. Remove contaminated clothing as soon as possible.

>> 4. If eye exposure has occurred, eyes must be flushed with lukewarm water for at least 15 minutes.

>> 5. Wash exposed skin areas THOROUGHLY with soap and water.

>> 6. Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.

>> 7. Transport to a health care facility.

>> Ingestion Exposure:

>> 1. Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.

>> 2. Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.

>> 3. Vomiting may be induced with syrup of Ipecac. If elapsed time since ingestion of dimethylhydrazine is unknown or suspected to be greater than 30 minutes, do not induce vomiting and proceed to Step

>> 4. Ipecac should not be administered to children under 6 months of age.Warning: Ingestion of dimethylhydrazine may result in sudden onset of seizures or loss of consciousness. Syrup of Ipecac should be administered only if victims are alert, have an active gag-reflex, and show no signs of impending seizure or coma. If ANY uncertainty exists, proceed to Step

>> 4.The following dosages of Ipecac are recommended: children up to 1 year old, 10 mL (1/3 oz); children 1 to 12 years old, 15 mL (1/2 oz); adults, 30 mL (1 oz). Ambulate (walk) the victims and give large quantities of water. If vomiting has not occurred after 15 minutes, Ipecac may be readministered. Continue to ambulate and give water to the victims. If vomiting has not occurred within 15 minutes after second administration of Ipecac, administer activated charcoal.

>> 4. Activated charcoal may be administered if victims are conscious and alert. Use 15 to 30 g (1/2 to 1 oz) for children, 50 to 100 g (1-3/4 to 3-1/2 oz) for adults, with 125 to 250 mL (1/2 to 1 cup) of water.

>> 5. Promote excretion by administering a saline cathartic or sorbitol to conscious and alert victims. Children require 15 to 30 g (1/2 to 1 oz) of cathartic; 50 to 100 g (1-3/4 to 3-1/2 oz) is recommended for adults.

>> 6. Transport to a health care facility. (EPA, 1998)

First Aid Measures

Inhalation First Aid

>> Fresh air, rest. Half-upright position. Refer immediately for medical attention.

Skin First Aid

>> First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Refer for medical attention .

Eye First Aid

>> Rinse with plenty of water (remove contact lenses if easily possible).

Ingestion First Aid

>> Rinse mouth. Rest. Do NOT induce vomiting. Refer immediately for medical attention.

5. Fire Fighting Measures

>> Prolonged exposure of containers of the material to fire or heat may result in their violent rupturing and rocketing due to the decomposition of the material. ... Vapors may travel to a source of ignition and a flame can flash back to the source of vapors.

>> Move containers from fire area if it can be done without risk. Dike fire control water for later disposal, do not scatter the material. Cool containers that are exposed to flames with water until well after fire is out, wear positive pressure breathing apparatus and special protective clothing. Isolate for one-half mile in all directions if tank car or truck is involved in fire.

>> Use dry chemical, carbon dioxide, water spray, or foam for small fires. In large fires water fog, carbon dioxide, and bicarbonate agents may allow flashback and explosive re-ignition. (EPA, 1998)

>> Use powder, alcohol-resistant foam, water in large amounts, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

6. Accidental Release Measures

Isolation and Evacuation:

Isolation and evacuation measures to take when a large amount of this chemical is accidentally released in an emergency.

>> Excerpt from ERG Guide 131 [Flammable Liquids - Toxic]:

>> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

>> SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1163 datasheet.

>> FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

Spillage Disposal:

Methods for containment and safety measures to protect workers dealing with a spillage of this chemical.

>> Remove all ignition sources. Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable non-plastic containers. Do NOT absorb in saw-dust or other combustible absorbents. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

7. Handling And Storage

Safe Storage:

>> Fireproof. Provision to contain effluent from fire extinguishing. Separated from strong oxidants and strong acids. Dry. Well closed. Keep in a well-ventilated room. Do NOT store or transport in containers made from plastic. Store in an area without drain or sewer access.

Storage Conditions:

>> PRECAUTIONS FOR "CARCINOGENS": Storage site should be as close as practicable to lab in which carcinogens are to be used, so that only small quantities required for ... expt need to be carried. Carcinogens should be kept in only one section of cupboard, an explosion proof refrigerator or freezer (depending on chemicophysical properties ...) that bears appropriate label. An inventory ... should be kept, showing quantity of carcinogen & date it was acquired ... Facilities for dispensing ... should be contiguous to storage area. /Chemical Carcinogens/

8. Exposure Control/ Personal Protection

REL-C (Ceiling)

>> 0.06 ppm (0.15 mg/m³) [120 minutes]

>> Ca C 0.06 ppm (0.15 mg/m3) [2-hr] See Appendix A

>> 0.5 [ppm]

PEL-TWA (8-Hour Time Weighted Average)

>> 0.5 ppm (1 mg/m³)

>> 0.01 [ppm]

>> 0.01 ppm as TWA; (skin); A3 (confirmed animal carcinogen with unknown relevance to humans).

TLV-TWA (Time Weighted Average)

>> 0.01 ppm [1993]

MAK (Maximale Arbeitsplatz Konzentration)

>> skin absorption (H); sensitization of skin (SH); carcinogen category: 2; germ cell mutagen group: 3A

Inhalation Risk:

>> A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20 °C.

Effects of Short Term Exposure:

>> The substance is irritating to the eyes, skin and respiratory tract. Inhalation of the vapour may cause lung oedema. The substance may cause effects on the central nervous system and liver.

Effects of Long Term Exposure:

>> The substance may have effects on the blood. This may result in anaemia. This substance is possibly carcinogenic to humans.

Fire Prevention

>> NO open flames, NO sparks and NO smoking. NO contact with oxidizing agents or acids. Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling. Use non-sparking handtools.

Exposure Prevention

>> AVOID ALL CONTACT! IN ALL CASES CONSULT A DOCTOR!

Inhalation Prevention

>> Use ventilation, local exhaust or breathing protection.

Skin Prevention

>> Protective gloves. Protective clothing.

Eye Prevention

>> Wear face shield or eye protection in combination with breathing protection.

Ingestion Prevention

>> Do not eat, drink, or smoke during work. Wash hands before eating.

Exposure Control and Personal Protection

Exposure Summary

>> TIH (Toxic Inhalation Hazard) - Term used to describe gases and volatile liquids that are toxic when inhaled. Some are TIH materials themselves, e.g., chlorine, and some release TIH gases when spilled in water, e.g., chlorosilanes. [ERG 2016].

9. Physical And Chemical Properties

Molecular Weight:

>> 60.10

Exact Mass:

>> 60.068748264

Physical Description:

>> 1,1-dimethylhydrazine appears as a clear colorless liquid with an ammonia-like odor. Flash point 0 °F. Corrosive to the skin. Less dense than water and soluble in water. Vapors are heavier than air and very toxic by inhalation, attacking the eyes and respiratory system. Prolonged exposure of containers to heat may result in their violent rupturing and rocketing due to decomposition. Generates toxic oxides of nitrogen when burned. Vapors may travel to a source of ignition and a flame can flashback to the source of vapors. Used as a rocket propellant and to make other chemicals.

>> COLOURLESS FUMING HYGROSCOPIC LIQUID WITH PUNGENT ODOUR. TURNS YELLOW ON EXPOSURE TO AIR.

Color/Form:

>> CLEAR, COLORLESS LIQUID

Odor:

>> Characteristic ammonia like fishy odor of aliphatic hydrazines

Boiling Point:

>> 147 °F at 760 mmHg (EPA, 1998)

>> 64 °C

Melting Point:

>> -72 °F (EPA, 1998)

>> -58 °C

Flash Point:

>> 5 °F (EPA, 1998)

>> -15 °C c.c.

Solubility:

>> Decomposes (NTP, 1992)

>> Solubility in water: very good

Density:

>> 0.7914 at 71.6 °F (EPA, 1998) - Less dense than water; will float

>> Relative density (water = 1): 0.8

Vapor Density:

>> 1.94 (EPA, 1998) - Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 2.1

Vapor Pressure:

>> 157 mmHg at 77 °F (EPA, 1998)

>> Vapor pressure, kPa at 20 °C: 13.7

LogP:

>> log Kow = -1.19 /Estimated/

>> -1.19

Stability/Shelf Life:

>> Solution stored in dark and cold are relatively stable in absence of oxidants

Autoignition Temperature:

>> 480 °F (NTP, 1992)

>> 249 °C

Decomposition:

>> When heated to decomp it emits highly toxic fumes of /nitrogen oxides/.

Viscosity:

>> 0.492 millipascal second @ 25 °C

>> 0.6 mm^2/s at 25 °C

Corrosivity:

The ability of a chemical to damage or destroy other substances when it comes into contact.

>> Highly corrosive.

Heat of Combustion:

>> -1979 kJ/mol

Heat of Vaporization:

>> 32.623 kJ/mol

pH:

pH is an expression of hydrogen ion concentration in water. Specifically, pH is the negative logarithm of hydrogen ion (H+) concentration (mol/L) in an aqueous solution. The term is used to indicate basicity or acidity of a solution on a scale of 0 to 14, with pH 7 being neutral.

>> STRONGLY ALKALINE LIQ

Surface Tension:

>> 24.09 dynes/cm at 25 °C

Ionization Potential:

>> 8.05 eV

Odor Threshold:

>> Odor Threshold Low: 6.1 [mmHg]

>> Odor Threshold High: 14.0 [mmHg]

>> Detection odor threshold from AIHA (mean = 9.2)

Refractive Index:

>> Index of refraction: 1.40753 @ 22.3 °C/D

Dissociation Constants:

>> pKa= 7.21 at 25 °C

10. Stability And Reactivity

>> Highly flammable over a wide range of vapor concentrations. May ignite spontaneously when spread on a large surface exposed to the air. [Def. Res. and Eng., pp 299-300(1963)]. Dissolves and slowly decomposes in water.

>> Highly Flammable

>> Strong Reducing Agent

11. Toxicological Information

EPA Provisional Peer-Reviewed Toxicity Values:

This section provides the EPA Provisional Peer-Reviewed Toxicity Values (PPRTVs) and links of related assessment documents.

Chemical Substance

>> 1,1-Dimethylhydrazine

Reference Concentration (RfC), Subchronic

>> 8 x 10^-6 mg/m^3

PPRTV Assessment

>> PDF Document

Weight-Of-Evidence (WOE)

>> Likely to be carcinogenic to humans

Last Revision

>> 2009

Evidence for Carcinogenicity:

Evidence that this chemical does or may cause cancer. The information here is collected from various sources by the Hazardous Substances Data Bank (HSDB).

>> Cancer Classification: Group B2 Probable Human Carcinogen

Carcinogen Classification:

This section provides the International Agency for Research on Cancer (IARC) Carcinogenic Classification and related monograph links. In the IARC Carcinogenic classification, chemicals are categorized into four groups: Group 1 (carcinogenic to humans), Group 2A (probably carcinogenic to humans), Group 2B (possibly carcinogenic to humans), and Group 3 (not classifiable as to its carcinogenicity to humans).

IARC Carcinogenic Agent

>> 1,1-Dimethylhydrazine

IARC Carcinogenic Classes

>> Group 2B: Possibly carcinogenic to humans

IARC Monographs

>> Volume 4: (1974) Some Aromatic Amines, Hydrazine and Related Substances, N-Nitroso Compounds and Miscellaneous Alkylating Agents

>> Volume Sup 7: Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42, 1987; 440 pages; ISBN 92-832-1411-0 (out of print)

>> Volume 71: (1999) Re-evaluation of Some Organic Chemicals, Hydrazine and Hydrogen Peroxide (Part 1, Part 2, Part 3)

Exposure Routes:

>> The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

>> inhalation, skin absorption, ingestion, skin and/or eye contact

Inhalation Exposure

>> Cough. Sore throat. Burning sensation. Nausea. Headache. Vomiting. Laboured breathing. Convulsions.

Skin Exposure

>> MAY BE ABSORBED! Redness. Pain. Further see Inhalation.

Eye Exposure

>> Redness. Pain.

Ingestion Exposure

>> Sore throat. Further see Inhalation.

>> irritation eyes, skin; choking, chest pain, dyspnea (breathing difficulty); drowsiness; nausea; anoxia; convulsions; liver injury; [potential occupational carcinogen]

Target Organs:

Organs that are affected by exposure to this chemical. Information in this section reflects human data unless otherwise noted.

>> central nervous system, liver, gastrointestinal tract, blood, respiratory system, eyes, skin

Cancer Sites:

The site in which cancer develops due to exposure to this compound. Cancers are casually referred to based on their primary sites (e.g., skin, lung, breasts, prostate, colon and rectum).

>> [in animals: tumors of the lungs, liver, blood vessels & intestines]

Adverse Effects:

An adverse effect is an undesired harmful effect resulting from a medical treatment or other intervention.

>> Neurotoxin - Other CNS neurotoxin

>> Occupational hepatotoxin - Secondary hepatotoxins: the potential for toxic effect in the occupational setting is based on cases of poisoning by human ingestion or animal experimentation.

>> Methemoglobinemia - The presence of increased methemoglobin in the blood; the compound is classified as secondary toxic effect

>> Reproductive Toxin - A chemical that is toxic to the reproductive system, including defects in the progeny and injury to male or female reproductive function. Reproductive toxicity includes developmental effects. See Guidelines for Reproductive Toxicity Risk Assessment.

>> Dermatotoxin - Skin burns.

>> Skin Sensitizer - An agent that can induce an allergic reaction in the skin.

>> Toxic Pneumonitis - Inflammation of the lungs induced by inhalation of metal fumes or toxic gases and vapors.

>> IARC Carcinogen - Class 3: Chemicals are not classifiable by the International Agency for Research on Cancer.

>> NTP Carcinogen - Reasonably anticipated to be a human carcinogen.

>> ACGIH Carcinogen - Confirmed Animal.

Toxicity Data:

>> LC50 (rat) = 252 ppm/4 hr

Interactions:

>> This study investigates the influence of two formula diets containing 20 g/100 g diet of either whey protein concentrate or casein or Purina mouse chow, on the humoral immune responsiveness and dimethylhydrazine induced colon carcinogenesis in A/J mice. After 20 weeks of dimethylhydrazine treatment, the number of plaque forming cells per spleen, following intravenous inoculation with 5 cells, was nearly three times greater in the whey protein-fed group than in the casein-fed mice although both values were substantially below normal. After 24 weeks of dimethylhydrazine treatment the incidence of tumors in the whey protein-fed mice was substantially lower than that in mice fed either the casein or Purina diet. Similarly, the tumor area was less in the whey protein group in comparison to either the casein or Purina groups, with some difference between casein and Purina groups. Body weight curves were similar in all dietary groups. In conclusion, a whey protein diet appears to significantly inhibit the incidence and growth of chemically induced colon tumors in mice.

Antidote and Emergency Treatment:

>> Specific treatment for exposure consists of thorough washing of all exposed skin areas with soap and water, copious irrigation of the eyes, and prompt removal of the patient from the source of exposure. /Hydrazines/

Human Toxicity Excerpts:

>> /SIGNS AND SYMPTOMS/ Potential symptoms of overexposure are irritation of eyes and skin; choking, chest pain and dyspnea; lethargy; nausea; anoxia; convulsions; liver injury.

Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ Mild conjunctivitis and slight erythema that cleared within 5 days were seen in rabbit eyes exposed to UDMH. No permanent ocular damage was seen in the rodent eye following direct instillation.

Non-Human Toxicity Values:

>> LC50 Rat inhalation 252 ppm/4 hr

Populations at Special Risk:

>> Biological half-lives were significantly different among the three acetylation phenotypes (analysis of variance, P < 0.05): 3.94+/-1.70 hours for slow acetylators, 2.25+/-0.37 hours for intermediate acetylators, and 1.86+/-0.67 hours for rapid acetylators. /Hydrazine/

12. Ecological Information

Resident Soil (mg/kg)

>> 5.70e-02

Industrial Soil (mg/kg)

>> 2.40e-01

Resident Air (ug/m3)

>> 2.10e-03

Industrial Air (ug/m3)

>> 8.80e-03

Tapwater (ug/L)

>> 4.20e-03

MCL (ug/L)

>> 5.00e+00

Risk-based SSL (mg/kg)

>> 9.3e-07

Chronic Oral Reference Dose (mg/kg-day)

>> 1.00e-04

Chronic Inhalation Reference Concentration (mg/m3)

>> 2e-06

Volatile

>> Volatile

Mutagen

>> Mutagen

Fraction of Contaminant Absorbed in Gastrointestinal Tract

>> 1

Soil Saturation Concentration (mg/kg)

>> 1.72e+05

ICSC Environmental Data:

>> The substance is toxic to aquatic organisms. It is strongly advised not to let the chemical enter into the environment.

13. Disposal Considerations

Spillage Disposal

>> Remove all ignition sources. Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable non-plastic containers. Do NOT absorb in saw-dust or other combustible absorbents. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Disposal Methods

>> Generators of waste (equal to or greater than 100 kg/mo) containing this contaminant, EPA hazardous waste number U098, must conform with USEPA regulations in storage, transportation, treatment and disposal of waste.

>> Catalytic reductive destruction of hydrazines, including 1,1-dimethylhydrazine, as an approach to waste hazard control is discussed.

>> Controlled incineration (oxides of nitrogen are removed from the effluent gas by scrubbers and/or thermal devices).

>> PRECAUTIONS FOR "CARCINOGENS": There is no universal method of disposal that has been proved satisfactory for all carcinogenic compounds & specific methods of chem destruction ... published have not been tested on all kinds of carcinogen-containing waste. ... summary of avail methods & recommendations ... /given/ must be treated as guide only. /Chemical Carcinogens/

>> For more Disposal Methods (Complete) data for 1,1-DIMETHYLHYDRAZINE (11 total), please visit the HSDB record page.

14. Transport Information

DOT

Hydrazine, 1,1-dimethyl-
6.1
UN Pack Group: I
Reportable Quantity of 10 lb or 4

IATA

Hydrazine, 1,1-dimethyl-
6.1, 3 and 8
UN Pack Group: I

15. Regulatory Information

DHS Chemicals of Interest (COI):

This section provides the Department of Homeland Security (DHS) Chemicals of Interest (COI) and related information (Ref: 6 eCFR part 27 - https://www.ecfr.gov/current/title-6/chapter-I/part-27).

Chemicals of Interest(COI)

>> 1,1-Dimethylhydrazine

Release: Minimum Concentration (%)

>> 1

Release: Screening Threshold Quantities (in pounds)

>> 10000

Security Issue: Release - Flammables

>> Flammable chemical that can be released at a facility.

Regulatory Information

The Australian Inventory of Industrial Chemicals

>> Chemical: Hydrazine, 1,1-dimethyl-

REACH Registered Substance

>> Status: Active Update: 12-12-2018 https://echa.europa.eu/registration-dossier/-/registered-dossier/13787

New Zealand EPA Inventory of Chemical Status

>> Dimazine: HSNO Approval: HSR002975 Approved with controls

16. Other Information

Toxic Combustion Products:

Toxic products (e.g., gases and vapors) produced from the combustion of this chemical.

>> Toxic oxides of nitrogen are produced during combustion of this material.

Other Safety Information

Chemical Assessment

>> IMAP assessments - Hydrazine, 1,1-dimethyl-: Human health tier II assessment