ionz

# SAFETY DATA SHEET

Updated on 26/09/2024

## 1. Material Identification

**Product Name** : Pentane
**Catalog Number** : io-2817
**CAS Number** : 109-66-0
**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**

>> H224 (17.2%): Extremely flammable liquid and vapor [Danger Flammable liquids]

>> H225 (82.8%): Highly Flammable liquid and vapor [Danger Flammable liquids]

>> H304 (100%): May be fatal if swallowed and enters airways [Danger Aspiration hazard]

>> H336 (> 99.9%): May cause drowsiness or dizziness [Warning Specific target organ toxicity, single exposure; Narcotic effects]

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

**Precautionary Statement Codes**

>> P210, P233, P240, P241, P242, P243, P261, P271, P273, P280, P301+P316, P303+P361+P353, P304+P340, P319, P331, P370+P378, P391, P403+P233, P403+P235, P405, and P501

**NFPA 704 Diamond**


**NFPA Health Rating**

>> 1 - Materials that, under emergency conditions, can cause significant irritation.

**NFPA Fire Rating**

>> 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.

**NFPA Instability Rating**

>> 0 - Materials that in themselves are normally stable, even under fire conditions.

### Health Hazards:

>> Low toxicity. Very high vapor concentrations produce narcosis. Aspiration into lungs can produce chemical pneumonitis and/or pulmonary edema. (USCG, 1999)

**ERG 2024, Guide 128 (Pentanes)**

>> CAUTION: Petroleum crude oil (UN1267) may contain TOXIC hydrogen sulphide gas.

>> Inhalation or contact with material may irritate or burn skin and eyes.

>> Fire may produce irritating, corrosive and/or toxic gases.

>> Vapors may cause dizziness or asphyxiation, especially when in closed or confined areas.

>> Runoff from fire control or dilution water may cause environmental contamination.

>> Behavior in Fire: Containers may explode (USCG, 1999)

**ERG 2024, Guide 128 (Pentanes)**

>> HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.

>> Vapors may form explosive mixtures with air.

>> Vapors may travel to source of ignition and flash back.

>> Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.).

>> Vapor explosion hazard indoors, outdoors or in sewers.

>> Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.

>> Runoff to sewer may create fire or explosion hazard.

>> Containers may explode when heated.

>> Many liquids will float on water.

>> Substance may be transported hot.

>> For hybrid vehicles, GUIDE 147 (lithium ion or sodium ion batteries) or GUIDE 138 (sodium batteries) should also be consulted.

>> If molten aluminum is involved, refer to GUIDE 169.

>> Highly flammable. Heating will cause rise in pressure with risk of bursting. Vapour/air mixtures are explosive.

## 3. Composition/Information On Ingredients

**Chemical name** : Pentane
**CAS Number** : 109-66-0
**Molecular Formula** : C5H12
**Molecular Weight** : 72.1500 g/mol

## 4. First Aid Measures

### First Aid:

>> EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

>> SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

>> INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere.

Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing.

>> INGESTION: DO NOT INDUCE VOMITING. Volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital. (NTP, 1992)

**ERG 2024, Guide 128 (Pentanes)**

>> General First Aid:

>> Call 911 or emergency medical service.

>> Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and avoid contamination.

>> Move victim to fresh air if it can be done safely.

>> Administer oxygen if breathing is difficult.

>> If victim is not breathing:

>> DO NOT perform mouth-to-mouth resuscitation; the victim may have ingestedor inhaled the substance.

>> If equipped and pulse detected, wash face and mouth, then give artificial respiration using a proper respiratory medical device (bag-valve mask, pocket mask equipped with a one-way valve or other device).

>> If no pulse detected or no respiratory medical device available, provide continuouscompressions. Conduct a pulse check every two minutes or monitor for any signs of spontaneous respirations.

>> Remove and isolate contaminated clothing and shoes.

>> For minor skin contact, avoid spreading material on unaffected skin.

>> In case of contact with substance, remove immediately by flushing skin or eyes with running water for at least 20 minutes.

>> For severe burns, immediate medical attention is required.

>> Effects of exposure (inhalation, ingestion, or skin contact) to substance may be delayed.

>> Keep victim calm and warm.

>> Keep victim under observation.

>> For further assistance, contact your local Poison Control Center.

>> Note: Basic Life Support (BLS) and Advanced Life Support (ALS) should be done by trained professionals.

>> Specific First Aid:

>> Wash skin with soap and water.

>> In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.

>> In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping paper and/or the "ERAP" section.

**First Aid Measures**

**Inhalation First Aid**

>> Fresh air, rest. Refer for medical attention.

**Skin First Aid**

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

**Eye First Aid**

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

**Ingestion First Aid**

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

## 5. Fire Fighting Measures

>> Containers may explode.

>> Excerpt from ERG Guide 128 [Flammable Liquids (Water-Immiscible)]:

>> CAUTION: The majority of these products have a very low flash point. Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective.

>> SMALL FIRE: Dry chemical, CO2, water spray or regular foam. If regular foam is ineffective or unavailable, use alcohol-resistant foam.

>> LARGE FIRE: Water spray, fog or regular foam. If regular foam is ineffective or unavailable, use alcohol-resistant foam. Avoid aiming straight or solid streams directly onto the product. If it can be done safely, move undamaged containers away from the area around the fire.

>> FIRE INVOLVING TANKS, RAIL TANK CARS OR HIGHWAY TANKS: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. For petroleum crude oil, do not spray water directly into a breached tank car. This can lead to a dangerous boil over. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks in direct contact with flames. For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2024)

>> Use powder, carbon dioxide, alcohol-resistant foam, water spray. 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 128 [Flammable Liquids (Water-Immiscible)]:

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

>> LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet).

>> 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)

**Evacuation: ERG 2024, Guide 128 (Pentanes)**

>> Immediate precautionary measure

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

>> Large Spill

>> Consider initial downwind evacuation for at least 300 meters (1000 feet).

>> 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.

### Spillage Disposal:

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

>> Evacuate danger area! Consult an expert! Personal protection: filter respirator for organic gases and vapours of low boiling point adapted to the airborne concentration of the substance. Remove all ignition sources. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in dry sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer.

**Accidental Release Measures**

**Public Safety: ERG 2024, Guide 128 (Pentanes)**

>> CALL 911. Then call emergency response telephone number on shipping paper. If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.

>> Keep unauthorized personnel away.

>> Stay upwind, uphill and/or upstream.

>> Ventilate closed spaces before entering, but only if properly trained and equipped.

**Spill or Leak: ERG 2024, Guide 128 (Pentanes)**

>> ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.

>> All equipment used when handling the product must be grounded.

>> Do not touch or walk through spilled material.

>> Stop leak if you can do it without risk.

>> Prevent entry into waterways, sewers, basements or confined areas.

>> A vapor-suppressing foam may be used to reduce vapors.

>> Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

>> Use clean, non-sparking tools to collect absorbed material.

>> Large Spill

>> Dike far ahead of liquid spill for later disposal.

>> Water spray may reduce vapor, but may not prevent ignition in closed spaces.

## 7. Handling And Storage

### Safe Storage:

>> Fireproof. Separated from strong oxidants. Cool. Well closed. Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing.

### Storage Conditions:

>> Storage temp: ambient. Venting: open (flame arrester) or pressure-vacuum.

## 8. Exposure Control/ Personal Protection

**REL-TWA (Time Weighted Average)**

>> 120 ppm (350 mg/m³)

**REL-C (Ceiling)**

>> 610 ppm (1800 mg/m³) [15 min]

>> TWA 120 ppm (350 mg/m3) C 610 ppm (1800 mg/m3) [15-minute]

>> 1000.0 [ppm]

**PEL-TWA (8-Hour Time Weighted Average)**

>> 1000 ppm (2950 mg/m³)

>> 1000.0 [ppm]

>> 1000 ppm as TWA.

**TLV-TWA (Time Weighted Average)**

>> 1000 ppm [2013]

**EU-OEL**

>> 3000 mg/m

**MAK (Maximale Arbeitsplatz Konzentration)**

>> 3000 mg/m

**Emergency Response: ERG 2024, Guide 128 (Pentanes)**

>> CAUTION: The majority of these products have a very low flash point. Use of water spray when fighting fire may be inefficient.

>> CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective.

>> Small Fire

>> Dry chemical, CO2, water spray or regular foam. If regular foam is ineffective or unavailable, use alcohol-resistant foam.

>> Large Fire

>> Water spray, fog or regular foam. If regular foam is ineffective or unavailable, use alcohol-resistant foam.

>> Avoid aiming straight or solid streams directly onto the product.

>> If it can be done safely, move undamaged containers away from the area around the fire.

>> Fire Involving Tanks, Rail Tank Cars or Highway Tanks

>> Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.

>> Cool containers with flooding quantities of water until well after fire is out.

>> For petroleum crude oil, do not spray water directly into a breached tank car. This can lead to a dangerous boil over.

>> Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

>> ALWAYS stay away from tanks in direct contact with flames.

>> For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

### Inhalation Risk:

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

### Effects of Short Term Exposure:

>> If swallowed the substance easily enters the airways and could result in aspiration pneumonitis. Inhalation of high concentrations of the vapour may cause depression of the central nervous system.

### Effects of Long Term Exposure:

>> The substance defats the skin, which may cause dryness or cracking.

#### Fire Prevention

>> NO open flames, NO sparks and NO smoking. NO contact with strong oxidizing agents. Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Do NOT use compressed air for filling, discharging, or handling. Use non-sparking handtools.

#### Inhalation Prevention

>> Use ventilation, local exhaust or breathing protection.

#### Skin Prevention

>> Protective gloves.

#### Eye Prevention

>> Wear safety spectacles or eye protection in combination with breathing protection.

#### Ingestion Prevention

>> Do not eat, drink, or smoke during work.

#### Exposure Control and Personal Protection

#### Protective Clothing: ERG 2024, Guide 128 (Pentanes)

>> Wear positive pressure self-contained breathing apparatus (SCBA).

>> Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

#### Maximum Allowable Concentration (MAK)

>> 1000.0 [ppm]

## 9. Physical And Chemical Properties

#### Molecular Weight:

>> 72.15

**Exact Mass:**

>> 72.093900383

**Physical Description:**

>> N-pentane appears as a clear colorless liquid with a petroleum-like odor. Flash point 57 °F. Boiling point 97 °F. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air.

>> COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

**Color/Form:**

>> Colorless liquid [Note: A gas above 97 degrees F. May be utilized as a fuel].

**Odor:**

>> Pleasant

**Boiling Point:**

>> 97 °F at 760 mmHg (NTP, 1992)

>> 36 °C

**Melting Point:**

>> -202 °F (NTP, 1992)

>> -129 °C

**Flash Point:**

>> -57 °F (NTP, 1992)

>> -49 °C c.c.

**Solubility:**

>> less than 1 mg/mL at 70 °F (NTP, 1992)

>> Solubility in water, g/100ml at 20 °C: 0.004 (very poor)

**Density:**

>> 0.626 at 68 °F (USCG, 1999) - Less dense than water; will float

>> Relative density (water = 1): 0.63

**Vapor Density:**

>> 2.48 (NTP, 1992) - Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 2.5

**Vapor Pressure:**

>> 400 mmHg at 65.3 °F ; 426 mmHg at 68 °F (NTP, 1992)

>> Vapor pressure, kPa at 18.5 °C: 53.3

**LogP:**

>> log Kow = 3.39

>> 3.39

**Autoignition Temperature:**

>> 500 °F (USCG, 1999)

>> 260 °C

**Decomposition:**

>> When heated to decomposition it emits acrid smoke and irritating fumes.

**Viscosity:**

>> 0.2224 mPa.sec at 25 °C (liquid)

>> 0,36 $mm^2/s$

**Corrosivity:**

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

>> Will attack some forms of plastics, rubber, and coatings.

**Heat of Combustion:**

>> 3272 kJ/mol (gas); 3245 kJ/mol (liquid)

**Heat of Vaporization:**

>> 26.43 kJ/mol at 25 °C

**Surface Tension:**

>> 16 dynes/cm = 0.016 N/m at 20 °C

**Ionization Potential:**

>> 10.34 eV

**Odor Threshold:**

>> Odor Threshold Low: 119.0 [mmHg]

>> Odor Threshold High: 1147.0 [mmHg]

>> Odor threshold from AIHA

**Refractive Index:**

>> Index of refraction: 1.3575 at 20 °C/D

**Relative Evaporation Rate:**

The rate at which a material will vaporize (evaporate, change from liquid to vapor), compared to the rate of vaporization of a specific known material.

>> 28.6 (Butyl acetate = 1)

## 10. Stability And Reactivity

>> Highly flammable. Insoluble in water.

>> Highly Flammable

## 11. Toxicological Information

**Toxicity Summary:**

>> Pentane is a central nervous system depressant. It affects the peripheral nervous system through demyelinization and axonal degeneration. (T29)

**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**

>> n-Pentane

**Reference Concentration (RfC), Chronic**

>> 1 mg/m^3

**Reference Concentration (RfC), Subchronic**

>> 1 x 10^1 mg/m^3

**PPRTV Assessment**

>> PDF Document

**Weight-Of-Evidence (WOE)**

>> Inadequate information to assess carcinogenic potential

**Last Revision**

>> 2009

**USGS Health-Based Screening Levels for Evaluating Water-Quality:**

This section provides the USGS Health-Based Screening Levels for Evaluating Water-Quality data.

**Chemical**

>> n-Pentane

**Reference**

>> Smith, C.D. and Nowell, L.H., 2024. Health-Based Screening Levels for evaluating water-quality data (3rd ed.). DOI:10.5066/F71C1TWP

**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).

>> Pentane is found in gasoline, which is possibly carcinogenic to humans (Group 2B). (L135)

**Health Effects:**

>> Pentane is a central nervous system depressant and can cause loss of consciousness and coma at high doses. Ingestion may cause pulmonary toxicity due to pentane aspiration, including chemical pneumonitis, acute lung injury, and hemorrhage. Cardiovascular effects may include ventricular dysrhythmias and sudden death. (T29, A600)

**Exposure Routes:**

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

**Inhalation Exposure**

>> Dizziness. Drowsiness. Headache. Nausea. Unconsciousness.

**Skin Exposure**

>> Dry skin.

**Ingestion Exposure**

>> Nausea. Vomiting. Aspiration hazard!

>> irritation eyes, skin, nose; dermatitis; chemical pneumonitis (aspiration liquid); drowsiness; In Animals: narcosis

**Target Organs:**

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

>> Eyes, skin, respiratory system, central nervous system

**Adverse Effects:**

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

>> Neurotoxin - Acute solvent syndrome

**Toxicity Data:**

>> LC50 (rat) = 364,000mg/m3/4hr

**Treatment:**

Treatment when exposed to toxin

>> Treatment is mainly symptomatic and supportive. Gastric lavage, emesis, and the administration of activated charcoal should be avoided, as vomiting increases the risk of aspiration. (A600)

**Interactions:**

>> Pentane is a weak cardiac sensitizer of the dog heart to epinephrine.

**Antidote and Emergency Treatment:**

>> Call for medical aid. Vapor, if inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid is harmful if swallowed. ... Do not induce vomiting.

**Human Toxicity Excerpts:**

>> /HUMAN EXPOSURE STUDIES/ Pentane is a CNS depressant, but is not as effective as the C1-C4 gases. The intensity of CNS depression appears generally to decr with increasing molecular weight, but increases for the highly symmetrical cmpds. Only a small increment in dose separates CNS depression and lethality. The aspiration hazard of pentane is considerably less than that of kerosene, octane, nonane, or decane.

**Non-Human Toxicity Excerpts:**

>> /LABORATORY ANIMALS: Acute Exposure/ Pretreatment of guinea pigs with n-pentane has been shown to enhance glucuronidation and stimulate oxidative drug metabolizing enzymes ... .

**Non-Human Toxicity Values:**

>> LC50 Rat inhalation 364 g/cu m/4H

**TSCA Test Submissions:**

Under the Toxic Substances Control Act (TSCA), EPA has broad authority to issue regulations designed to require manufacturers (including importers) or processors to test chemical substances and mixtures for health and environmental effects. This section provides information on test reports submitted for this chemical under TSCA.

>> Pentane was evaluated for the maximum tolerated dose by inhalation in groups of eight mated female rats at target concentrations of 0, 1000, 3000, and 10000 ppm on days 7-16 of gestation (hours/day not specified). There were no differences in clinical signs, maternal weight, or food consumption from controls. Mean resorptions per litter were increased at 3000 ppm and 10,000 ppm, but the increase was not statistically significant. Mean fetal weights were slightly less than controls, but not significantly so and there was no dose-response detected. The incidence of fetal alterations was not affected by maternal exposure. No maternal or fetal toxicity was detected in this study and the maximum tolerated exposure was greater than 10,000 ppm.

**Populations at Special Risk:**

>> Persons with skin disorders may be more susceptible to the effects of this agent. ... In persons with impaired pulmonary function, especially those with obstructive airway diseases, the breathing of pentane might cause exacerbation of symptoms due to its irritant properties.

## 12. Ecological Information

**Resident Soil (mg/kg)**

>> 8.10e+02

**Industrial Soil (mg/kg)**

>> 3.40e+03

**Resident Air (ug/m3)**

>> 1.00e+03

**Industrial Air (ug/m3)**

>> 4.40e+03

**Tapwater (ug/L)**

>> 2.10e+03

**MCL (ug/L)**

>> 1.00e+00

**Risk-based SSL (mg/kg)**

>> 1.00e+01

**Chronic Inhalation Reference Concentration (mg/m3)**

>> 1.00e+00

**Volatile**

>> Volatile

**Mutagen**

>> Mutagen

**Fraction of Contaminant Absorbed in Gastrointestinal Tract**

>> 1

**Soil Saturation Concentration (mg/kg)**

>> 3.88e+02

### ICSC Environmental Data:

>> The substance is toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment. It is strongly advised not to let the chemical enter into the environment.

### Sediment/Soil Concentrations:

Concentrations of this compound in sediment/soil.

>> n-Pentane was detected in 3 of 4 sediment samples from Walvis Bay of the Namibian shelf of SW Africa at concentrations of 0.12, 0.19 and 0.78 ng/g(1).

## 13. Disposal Considerations

**Spillage Disposal**

>> Evacuate danger area! Consult an expert! Personal protection: filter respirator for organic gases and vapours of low boiling point adapted to the airborne concentration of the substance. Remove all ignition sources. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in dry sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer.

**Disposal Methods**

>> SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

>> Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

>> The following wastewater treatment technologies have been investigated for pentane: Biological treatment.

## 14. Transport Information

**DOT**

Pentane
3
UN Pack Group: I

**IATA**

Pentane
3,
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)**

>> Pentane

**Release: Minimum Concentration (%)**

>> 1

**Release: Screening Threshold Quantities (in pounds)**

>> 10000

**Security Issue: Release - Flammables**

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

### TSCA Requirements:

This section provides information on requirements concerning this chemical under the Toxic Substances Control Act (TSCA) of 1976. TSCA provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides.

>> Section 8(a) of TSCA requires manufacturers of this chemical substance to report preliminary assessment information concerned with production, exposure, and use to EPA as cited in the preamble in 51 FR 41329. Effective date: 1/26/94; Reporting date: 3/28/94.

**Regulatory Information**

**The Australian Inventory of Industrial Chemicals**

>> Chemical: Pentane

**REACH Registered Substance**

>> Status: Active Update: 21-09-2022 https://echa.europa.eu/registration-dossier/-/registered-dossier/15177

**New Zealand EPA Inventory of Chemical Status**

>> Pentane: HSNO Approval: HSR001212 Approved with controls

## 16. Other Information

### Toxic Combustion Products:

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

>> Hazardous decomposition products formed under fire conditions. -Carbon oxides.

**Other Safety Information**

**Chemical Assessment**

>> IMAP assessments - Pentane: Human health tier I assessment