ionz

SAFETY DATA SHEET

Updated on 26/09/2024

1. Material Identification

Product Name : Ethyl acetate
Catalog Number : io-2350
CAS Number : 141-78-6
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)

Note

>> Pictograms displayed are for > 99.9% (5230 of 5233) of reports that indicate hazard statements. This chemical does not meet GHS hazard criteria for < 0.1% (3 of 5233) of reports.

Pictogram(s)

GHS Hazard Statements

>> H225 (> 99.9%): Highly Flammable liquid and vapor [Danger Flammable liquids]

>> H319 (91.2%): Causes serious eye irritation [Warning Serious eye damage/eye irritation]

>> H336 (99.7%): May cause drowsiness or dizziness [Warning Specific target organ toxicity, single exposure; Narcotic effects]

Precautionary Statement Codes

>> P210, P233, P240, P241, P242, P243, P261, P264+P265, P271, P280, P303+P361+P353, P304+P340, P305+P351+P338, P319, P337+P317, P370+P378, 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

>> 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

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

Health Hazards:

>> Headache, irritation of respiratory passages and eyes, dizziness and nausea, weakness, loss of consciousness. (USCG, 1999)

ERG 2024, Guide 129 (Ethyl acetate)

>> May cause toxic effects if inhaled or absorbed through skin.

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

>> Fire will 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.

>> Excerpt from ERG Guide 129 [Flammable Liquids (Water-Miscible / Noxious)]:

>> 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. (ERG, 2024)

ERG 2024, Guide 129 (Ethyl acetate)

>> 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.

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

3. Composition/Information On Ingredients

Chemical name : Ethyl acetate
CAS Number : 141-78-6
Molecular Formula : C4H8O2
Molecular Weight : 88.1100 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 129 (Ethyl acetate)

>> 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

>> Rinse contaminated clothes (fire hazard) with plenty of water. Remove contaminated clothes. Rinse skin with plenty of water or shower.

Eye First Aid

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

Ingestion First Aid

>> Rinse mouth. Seek medical attention if you feel unwell.

5. Fire Fighting Measures

>> Flashback along vapor trail may occur.

>> Excerpt from ERG Guide 129 [Flammable Liquids (Water-Miscible / Noxious)]:

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

>> SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane (UN1261) or nitroethane (UN2842).

>> LARGE FIRE: Water spray, fog or 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. 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 alcohol-resistant foam, foam, powder, carbon dioxide, fine 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 129 [Flammable Liquids (Water-Miscible / Noxious)]:

>> 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 129 (Ethyl acetate)

>> 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.

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

Accidental Release Measures

Public Safety: ERG 2024, Guide 129 (Ethyl acetate)

>> 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 129 (Ethyl acetate)

>> 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, strong bases and strong acids.

Storage Conditions:

>> Keep tightly closed in cool place.

8. Exposure Control/ Personal Protection

REL-TWA (Time Weighted Average)

>> 400 ppm (1400 mg/m³)

>> TWA 400 ppm (1400 mg/m3)

>> 400.0 [ppm]

PEL-TWA (8-Hour Time Weighted Average)

>> 400 ppm (1400 mg/m³)

>> 400.0 [ppm]

>> 400 ppm as TWA.

TLV-TWA (Time Weighted Average)

>> 400 ppm [1979]

EU-OEL

>> 734 mg/m

MAK (Maximale Arbeitsplatz Konzentration)

>> 750 mg/m

Emergency Response: ERG 2024, Guide 129 (Ethyl acetate)

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

>> Small Fire

>> Dry chemical, CO2, water spray or alcohol-resistant foam.

>> Do not use dry chemical extinguishers to control fires involving nitromethane (UN1261) or nitroethane (UN2842).

>> Large Fire

>> Water spray, fog or 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.

>> 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 will be reached rather slowly on evaporation of this substance at 20 °C.

Effects of Short Term Exposure:

>> The substance is mildly irritating to the eyes and respiratory tract. The substance may cause effects on the central nervous system. Exposure far above the OEL could cause lowering of consciousness.

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. Closed system, ventilation, explosion-proof electrical equipment and lighting. Use non-sparking handtools. Do NOT use compressed air for filling, discharging, or handling.

Exposure Prevention

>> PREVENT GENERATION OF MISTS!

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 129 (Ethyl acetate)

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

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

RD50 (Exposure concentration producing a 50% respiratory rate decrease)

>> 614.0 [mmHg]

Maximum Allowable Concentration (MAK)

>> 200.0 [ppm]

9. Physical And Chemical Properties

Molecular Weight:

>> 88.11

Exact Mass:

>> 88.052429494

Physical Description:

>> Ethyl acetate appears as a clear colorless liquid with a fruity odor. Flash point 24 °F. Less dense than water. Vapors heavier than air.

>> COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

Color/Form:

>> Clear, volatile

Odor:

>> CHARACTERISTIC ETHER-LIKE ODOR REMINISCENT OF PINEAPPLE.

Taste:

The sensation of flavor perceived in the mouth and throat on contact with a substance.

>> Pleasant taste when diluted

Boiling Point:

>> 171 °F at 760 mmHg (NTP, 1992)

>> 77 °C

Melting Point:

>> -118.5 °F (NTP, 1992)

>> -84 °C

Flash Point:

>> 24 °F (NTP, 1992)

>> -4 °C c.c.

Solubility:

>> 50 to 100 mg/mL at 70 °F (NTP, 1992)

>> Solubility in water, g/100ml at 20 °C: 8.7 (poor)

Density:

>> 0.902 at 68 °F (USCG, 1999) - Less dense than water; will float

>> Relative density (water = 1): 0.9

Vapor Density:

>> 3.04 (NTP, 1992) - Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 3.0

Vapor Pressure:

>> 73 mmHg at 68 °F ; 100 mmHg at 81 °F (NTP, 1992)

>> Vapor pressure, kPa at 20 °C: 10

LogP:

>> log Kow = 0.73

>> 0.73

Stability/Shelf Life:

>> Slowly decomp by moisture.

Autoignition Temperature:

>> 800 °F (USCG, 1999)

>> 427 °C

Decomposition:

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

Viscosity:

>> 0.423 mPa.s at 25 °C

Heat of Combustion:

>> 2238.1 kJ/mol

Heat of Vaporization:

>> 35.60 kJ/mol at 25 °C

Surface Tension:

>> 24 DYNES/CM AT 20 °C

Ionization Potential:

>> 10.01 eV

Odor Threshold:

>> Odor Threshold Low: 6.4 [mmHg]

>> Odor Threshold High: 50.0 [mmHg]

>> Detection odor threshold from AIHA (mean = 18 ppm)

Refractive Index:

>> Index of refraction = 1.3723 at 20 °C/D

Dissociation Constants:

10. Stability And Reactivity

>> Highly flammable. Slightly soluble in water. This chemical is slowly hydrolyzed by moisture.

CSL No

>> CSL00036

Reactants/Reagents

>> THIONYL CHLORIDE + ETHYL ACETATE + IRON

Warning Message

>> Galvanised drums burst when used for storing thionyl chloride in ethyl acetate

GHS Category

>> Gas Under Pressure

Reference Source

>> Bretherick's

Modified Date

>> 5/31/18

Create Date

>> 4/20/17

Reaction Class

>> CSL00002 oxidation

Additional Information

>> peroxides in various batches of ACS-grade ethyl acetate. The level of peroxide in ethyl acetate is not required by ACS.

DOI Link

>> http://pubs.acs.org/cen/safety/20001218.html

11. Toxicological Information

Toxicity Summary:

>> IDENTIFICATION AND USE: Ethyl Acetate is a colorless liquid with a smell similar to glue or nail polish that is used as an industrial solvent. Ethyl Acetate is used as a solvent for chemical reactions. Because of its odor it is often used in cosmetics and its smell is associated with nail polishes. Additionally, it is used in confectionery, perfumes, and fruits because it evaporates at a fast rate, leaving but the scent of the perfume on the skin. Ethyl acetate is an effective

poison for use in insect collector as its vapors are a respiratory tract irritant whose vapors can kill the insect quickly without destroying it, leaving it intact for study. HUMAN EXPOSURE AND TOXICITY: Short-term exposure to high levels of ethyl acetate results first in irritation of the eyes, nose and throat, followed by headache, nausea, vomiting, sleepiness, and unconsciousness. High concentrations can cause CNS depression and congestion of the liver and kidneys. Chronic poisoning has been described as producing anemia, leucocytosis (transient increase in the white blood cell count), and cloudy swelling, and fatty degeneration. Runners were evaluated after complaining of wheezing coughing, rhinitis, or shortness of breath after practicing in a facility under construction. Investigation revealed levels of ethyl acetate and toluene low enough to meet federal guidelines but apparently sufficient to cause symptoms in the athletes. Its carcinogenic properties are not known. Workers who in earlier years had been exposed to ethyl acetate concentrations of 300 mL/cu m and who were exposed at the time of the investigation to 16 mL/cu m were found to have normal sperm quality. ANIMAL STUDIES: In animals it has a narcotic effect at concentrations of over 5000 ppm. Repeated exposures of rabbits to 4450 ppm for 1 hr daily for 40 days resulted in anemia with leukocytosis, and damage to liver and kidneys. Male rats exposed to a high dose (3600 mg/kg/day) of ethyl acetate by gavage showed significant toxic effects, which resulted in depressed body and organ weights, and depressed food consumption. Female rats exposed to the high dose showed slight but non-significant depression of above parameters compared with controls. Exposure of rats to 750 and 1500 ppm ethyl acetate via inhalation for 6 hr per day, 5 days per week for 13 weeks, diminished behavioral responses to unexpected auditory stimuli during the exposure session and appeared to have an acute sedative effect. There were no signs of acute intoxication 30 min after exposure sessions ended. Rats exposed to 750 and 1500 ppm had reduced body weight, body weight gain, feed consumption, and feed efficiency, which fully or partially recovered within 4 weeks. Reductions in body weight gain and feed efficiency were observed in male rats exposed to 350 ppm. The principal behavioral effect of subchronic exposure was reduced motor activity in the 1500 ppm females, an effect that was not present after the 4-week recovery period. All other functional observation battery and motor activity parameters were unaffected, and no pathology was observed in nervous system tissues. In conclusion, there was no evidence that subchronic exposure up to 1500 ppm ethyl acetate produced any enduring neurotoxic effects in rats. Ethyl acetate is strong inducer of aneuploidy in the yeast Saccaromyces cerevisiae, but was negative for mutagenicity in Salmonella typhimurium assays. The solvent yielded negative result in the micronucleus assay in Chinese hamsters in vivo. In vivo hydrolysis of ethyl acetate to acetic acid and ethanol occurred rapidly. ECOTOXICITY STUDIES: Exposure of the common indian catfish (Heteropneustes fossilus) to 170 ppm of ethyl acetate for 3, 6, 12, 48, and 96 hr induced marked changes in carbohydrate metabolism. Hepatic glycogen levels declined significantly at 3, 48, and 96 hr, but there was no marked alteration in muscle glycogen content at any of the exposure periods. Hyperglycemia occurred at all time intervals. Blood pyruvate levels were elevated at 3, 6, 48, and 96 hr. Hyperlacticemia resulted at 3 and 96 hr, but hypolacticemia occurred at 6 and 12 hr. Impairment of carbohydrate metabolism might be responsible for the toxic action of ethyl acetate.

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

>> Ethyl Acetate

Reference Dose (RfD), Subchronic

>> 7 x 10^-1 mg/kg-day

Reference Concentration (RfC), Chronic

>> 7 x 10^-2 mg/m^3

Reference Concentration (RfC), Subchronic

>> 7 x 10^-1 mg/m^3

PPRTV Assessment

>> PDF Document

Weight-Of-Evidence (WOE)

>> Inadequate information to assess carcinogenic potential

Last Revision

>> 2013

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

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

Chemical

>> Ethyl acetate

USGS Parameter Code

>> 81585

Noncancer HBSL (Health-Based Screening Level)[µg/L]

>> 5000

Reference

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

Exposure Routes:

>> The substance can be absorbed into the body by inhalation of its vapour.

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

Inhalation Exposure

>> Sore throat. Cough. Headache. Drowsiness.

Skin Exposure

>> Redness. Dry skin.

Eye Exposure

>> Redness.

>> irritation eyes, skin, nose, throat; narcosis; dermatitis

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

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 (mice) = 45,000 mg/m3/2H

Interactions:

>> Study of 30 workers exposed chronically to 15-50 mg of ethyl acetate in addition to 20 to 80 mg of amyl acetate/L of air showed no ... abnormalities in cornea, merely hyperemia of bulbar conjunctiva. ... Prolonged inhalation may be damaging to lung, liver, kidney, & heart. ... No effect on eyes ... known from systemic absorption.

Antidote and Emergency Treatment:

>> Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Esters and related compounds/

Human Toxicity Excerpts:

>> /HUMAN EXPOSURE STUDIES/ A variety of national occupational exposure limits for ethyl acetate exist based on different studies, mostly relying on subjective evaluations of ethyl acetate as an irritant. Only one study also used physiological methods with inconsistent results in subjective and objective data. The present study was designed to investigate ethyl acetate on three different dimensions: behavioral, physiological and psychological indicators of adverse chemosensory effects were investigated during acute exposures to different concentrations of ethyl acetate. Twenty-four subjects were challenged with ethyl acetate in three exposure patterns (2 ppm, 400 ppm, 400 ppm including peaks of 800 ppm). While the odor intensity is rated "strong", trigeminal perceptions were rated less than "moderate". The absence of substantial trigeminal ratings was supported by physiological data. There was neither an effect of concentration on blinking frequency nor on nasal resistance which both are indicators of irritation. Furthermore, there are no effects of ethyl acetate concentration on behavioral measures indicating no olfactory or trigeminally mediated disturbance of cognitive processing. In conclusion, the results of this multilevel approach revealed no adverse chemosensory effects at ethyl acetate concentrations as recommended by the German MAK-value.

Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ ... Animals could withstand an ethyl acetate concn of 2000 ppm for 65, four-hr exposures without apparent ill effects, as measured by lack of change in body wt & in red & white blood counts.

Non-Human Toxicity Values:

>> LD50 Rat oral 11.3 mL/kg

Populations at Special Risk:

>> Employees /with chronic respiratory, skin, liver, or kidney disase may be/ at increased risk from ethyl acetate.

12. Ecological Information

Resident Soil (mg/kg)

>> 6.20e+02

Industrial Soil (mg/kg)

>> 2.60e+03

Resident Air (ug/m3)

>> 7.30e+01

Industrial Air (ug/m3)

>> 3.10e+02

Tapwater (ug/L)

>> 1.40e+02

MCL (ug/L)

>> 2.00e+00

Risk-based SSL (mg/kg)

>> 3.10e-02

Chronic Oral Reference Dose (mg/kg-day)

>> 7.00e-01

Chronic Inhalation Reference Concentration (mg/m3)

>> 7.00e-02

Volatile

>> Volatile

Mutagen

>> Mutagen

Fraction of Contaminant Absorbed in Gastrointestinal Tract

>> 1

Soil Saturation Concentration (mg/kg)

>> 1.08e+04

Fish/Seafood Concentrations:

Concentrations of this compound in fish or seafood.

>> Ethyl acetate was identified in a sample of mussel collected from the Oarai Coast in Ibaraki, Japan on July 31, 1985 at a concentration of 97.1 ug/g(1).

13. Disposal Considerations

Spillage Disposal

>> Remove all ignition sources. Evacuate danger area! Consult an expert! Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT wash away into sewer. Collect leaking and spilled liquid in sealable containers as far as possible. 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 numbers U112 and F003, must conform with USEPA regulations in storage, transportation, treatment and disposal of waste.

>> 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.

>> Incineration: Burn waste material in an approved waste disposal incinerator.

>> 1. By absorbing it in vermiculite, dry sand, earth, or a similar material. 2. By atomizing in a suitable combustion chamber.

>> For more Disposal Methods (Complete) data for ETHYL ACETATE (6 total), please visit the HSDB record page.

14. Transport Information

DOT

Ethyl acetate
3
UN Pack Group: II
Reportable Quantity of 5000 lb or 2270 kg

IATA

Ethyl acetate
3,
UN Pack Group: II

15. Regulatory Information

Regulatory Information

The Australian Inventory of Industrial Chemicals

>> Chemical: Acetic acid, ethyl ester

REACH Registered Substance

>> Status: Active Update: 23-11-2022 https://echa.europa.eu/registration-dossier/-/registered-dossier/15437

>> Status: Cease Manufacture Update: 06-05-2018 https://echa.europa.eu/registration-dossier/-/registered-dossier/24411

>> Status: No longer Valid Update: 11-01-2016 https://echa.europa.eu/registration-dossier/-/registered-dossier/6312

New Zealand EPA Inventory of Chemical Status

>> Acetic acid ethyl ester: HSNO Approval: HSR001041 Approved with controls

16. Other Information

Other Safety Information

Chemical Assessment

>> IMAP assessments - Acetate esters (C2-C4): Human health tier II assessment

>> IMAP assessments - Acetic acid, ethyl ester: Environment tier I assessment

"The information provided is believed to be accurate but is not comprehensive and should be used as a reference. It reflects our current knowledge and is intended for safety guidance related to the product. This document does not constitute a warranty of the product's properties. Ionz is not responsible for any damages resulting from handling or contact with the product incorrectly."