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ISO 9001: 2015

MATERIAL SAFETY DATA SHEET

Identification

Isoamyl acetate, GR 99%

Code: I 1537

2. Hazard identification

2.1 Classification of the substance or mixture

Flammable liquids, Category 3

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Hazard statement(s)

Precautionary statement(s)

Prevention

Warning

H226 Flammable liquid and vapour

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.

P242 Use non-sparking tools.

P243 Take action to prevent static discharges.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P370+P378 In case of fire: Use ... to extinguish.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container to ...

Response

Storage

Disposal

2.3 Other hazards which do not result in classification

none

3. Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
isoamyl acetate	isoamyl acetate	123-92-2	none	100%

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

Fresh air, rest. Refer for medical attention.

In case of skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

In case of eye contact

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

If swallowed

Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention.

4.2 Most important symptoms/effects, acute and delayed

VAPOR: Irritating to eyes, nose and throat. If inhaled, will cause nausea, headache or dizziness. LIQUID: Irritating to skin and eyes.

Harmful if swallowed. (USCG, 1999)

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

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/

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

use alcohol foam, carbon dioxide, dry chemical.

5.2 Specific hazards arising from the chemical

FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. When heated emits acrid fumes. When exposed to flames can react vigorously with reducing materials. (USCG, 1999)

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

Prevent leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided... Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Fireproof. Separated from strong oxidants. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

Recommended Exposure Limit: 10 Hour Time-Weighted Average: 100 ppm (525 mg/cu m).

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9. Physical and chemical properties

Physical state

colourless liquid with a smell of bananas

Colour

Colorless neutral liquid

Odour

Pear-like odor

Melting point/ freezing point

205\°C(dec.)(lit.)

Boiling point or initial boiling point and

142\°C/756mmHg(lit.)

boiling range

Flammability

Class IC Flammable Liquid: F.I.P. at or above 22.78°C and below 37.78°C. Flammable.

Lower and upper explosion limit / flammability limit

In air % by vol: lower 1.0 at 212 deg F; upper 7.5

Flash point

25\°C

Auto-ignition temperature

360\°C

Decomposition temperature

no data available

pH

no data available

Kinematic viscosity

1.030 cP at 8.97°C; 0.872 cP at 19.91°C.

Solubility

In water: 0.20 g/100 mL. Slightly soluble

Partition coefficient n-octanol/water (log

log Kow = 2.25

value)	
Vapour pressure	5 mm Hg (25 \u00b0C)
Density and/or relative density	0.876g/mL at 25\u00b0C(lit.)
Relative vapour density	4.5 (vs air)
Particle characteristics	no data available

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. ISO-AMYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound can react violently with oxidizing materials, nitrates, strong alkalis and strong acids.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

can react vigorously with reducing materials.

10.6 Hazardous decomposition products

Special hazards arising from the substance or mixture: Carbon oxides.

11. Toxicological information

Acute toxicity

Oral: LD50 Rabbit oral 7422 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

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12. Ecological information

12.1 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

12.2 Persistence and degradability

AEROBIC: Biodegradation studies with isoamyl acetate were not available(SRC, 2015). Structurally similar compounds such as butyl acetate and isopropyl acetate have achieved 50.7 and 40.0%, respectively, of their theoretical BODs after 10 days in mineralized water and settled sanitary sewage at 20\u00b0C(1). Butyl acetate present at 100 mg/L, reached 86% of its theoretical BOD in 2 weeks using an activated sludge inoculum in the Japanese MITI test(2). Isobutyl acetate, methyl amyl acetate, and other alkyl acetates have achieved between 69-81% of their theoretical BODs after 20 days in fresh water tests with non-acclimated sludge(3). These data suggest that biodegradation of isoamyl acetate may be an important environmental fate process(SRC).

12.3 Bioaccumulative potential

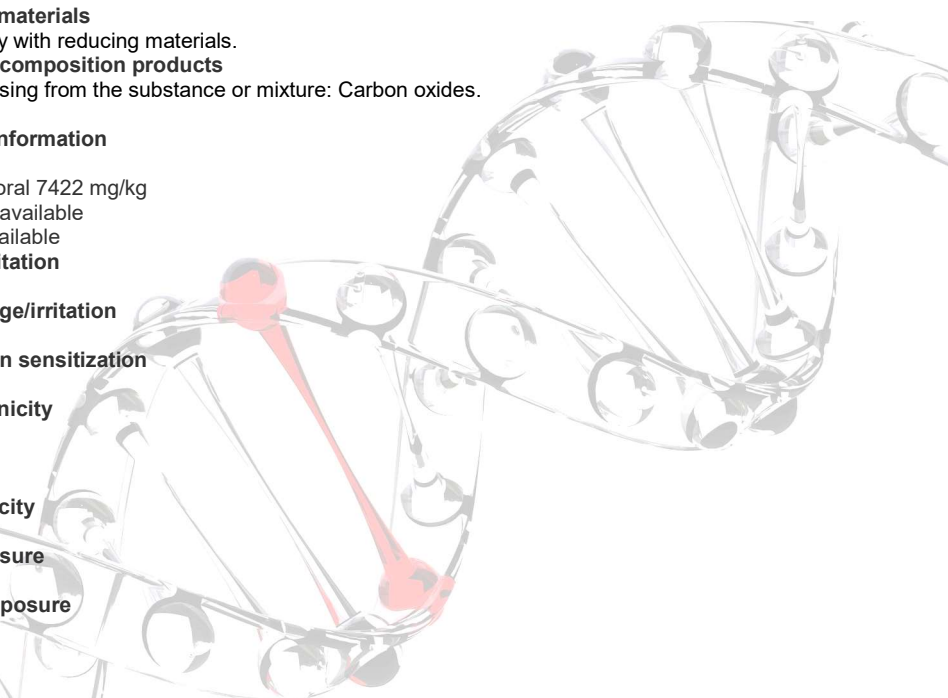
An estimated BCF of 14 was calculated in fish for isoamyl acetate(SRC), using a log Kow of 2.25(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

The Koc of isoamyl acetate is estimated as 130(SRC), using a log Kow of 2.25(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that isoamyl is expected to have high mobility in soil.

12.5 Other adverse effects

no data available



13. Disposal considerations

13.1 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.

14. Transport information

14.1 UN Number

ADR/RID: UN1104

IMDG: UN1104

IATA: UN1104

14.2 UN Proper Shipping Name

ADR/RID: AMYL ACETATES

IMDG: AMYL ACETATES

IATA: AMYL ACETATES

14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4 Packing group, if applicable

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG: no

IATA: no

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information

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

Chemical name	Common names and synonyms	CAS number	EC number
isoamyl acetate	isoamyl acetate	123-92-2	none
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)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

SECTION 16: OTHER INFORMATION

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.