Product Safety Assessment

Isopropyl Acetate

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Names
- CAS No. 108-21-4
- Isopropyl acetate
- Secondary propyl acetate
- EC No. 203-561-1
- Isopropyl ethanoate
- Acetic acid, isopropyl ester

Product Overview
- Isopropyl acetate is a colorless liquid with an aromatic, fruity odor.¹ For further details, see Product Description.
- Isopropyl acetate is used mainly as a solvent for rotogravure and flexographic printing inks. Other applications include coatings, cleaning fluids, cosmetics, and fragrances.¹,² For further details, see Product Uses.
- Isopropyl acetate liquid and vapor are flammable. The product is stable at recommended temperatures and pressures. Isopropyl acetate is incompatible with alkali metal hydroxides, such as sodium hydroxide, as well as nitric acid and strong oxidizers, and contact should be avoided.³ For further details, see Physical Hazard Information.
- Eye contact with liquid isopropyl acetate may cause severe irritation and severe corneal injury. Eye contact with vapor may cause mild discomfort and redness. Prolonged skin contact may cause slight irritation with local redness and discomfort and possible drying or flaking of the skin. It is unlikely to result in absorption of harmful amounts. Excessive inhalation of isopropyl acetate vapors may cause irritation to the nose, throat, and lungs, as well as central nervous system effects. In confined or poorly ventilated areas, unconsciousness or death could occur.³ For further details, see Health Information.
- Isopropyl acetate is highly biodegradable, unlikely to bioaccumulate in the food chain, and is practically non-toxic to fish and aquatic organisms.
- Worker exposure is possible during manufacturing or other industrial processes using isopropyl acetate. Consumers could be exposed by using cosmetics, fragrances, or other products made with it.³ For further details, see Exposure Potential.

Manufacture of Product⁴
- Capacity –Dow manufactures isopropyl acetate at facilities in Texas City, Texas in the United States.
Product Description

Isopropyl acetate is a colorless liquid with an aromatic, fruity odor. It is moderately soluble in water.

Product Uses

Isopropyl acetate is broadly used as a solvent in commercial printing processes for:

- Rotogravure inks – for magazines, books, newspaper inserts, and catalogs, as well as packaging printing on paperboard, metal, and plastic film
- Flexographic inks – for paper, cardboard, and plastic-packaging materials

Other uses for isopropyl acetate include:

- Coatings – for wood furniture and fixtures; agricultural, construction, and mining equipment; containers; and auto refinishing
- Industrial process solvent
- Cleaning fluids
- Cosmetics and personal-care products
- Fragrances

Exposure Potential

Isopropyl acetate is used in the production of industrial and consumer products. Based on the uses for isopropyl acetate the public could be exposed through:

- **Workplace exposure** – Exposure can occur either in an isopropyl acetate manufacturing facility or in the various industrial or manufacturing facilities that use it. Those working with isopropyl acetate in manufacturing operations could be exposed during maintenance, sampling, testing, or other procedures. Each facility should have a thorough training program for employees and appropriate work processes and safety equipment in place to limit unnecessary exposure. See Health Information.

- **Consumer exposure to products containing isopropyl acetate** – Dow does not sell isopropyl acetate for direct consumer use. Consumers could be exposed to isopropyl acetate by using cosmetics or other products containing it. See Health Information.

- **Environmental releases** – Isopropyl acetate may be released to air by evaporation from products that contain it. Although the substance is moderately soluble, when introduced to water, it will have a tendency to evaporate. Because the chemical is highly biodegradable, it will be treated by sewage treatment plants. See Environmental, Health, and Physical Hazard Information.

- **Large release** – Industrial spills or releases are infrequent and generally contained. If a large spill does occur, dike the area to contain the spilled material. Isolate the area and evacuate unnecessary personnel. Eliminate all sources of ignition. Ground and bond all containers and handling equipment. Keep upwind of the spill and ventilate the area. If available, use foam to...
smother or suppress fumes. Use explosion-proof equipment to pump the recovered material into suitable and properly labeled containers. Warn the public of any downwind explosion hazard. Use appropriate safety equipment.

- **In case of fire** – Keep people away and prevent unnecessary entry. Isopropyl acetate vapor is an explosion hazard. Vapors are heavier than air and may travel long distances and accumulate in low-lying areas. Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire-fighting clothing or fight fire from a safe distance. Use water fog or fine spray, dry-chemical or carbon-dioxide fire extinguishers, or foam. **Do not use** a direct water stream as it may spread the fire. Follow emergency procedures carefully. See Environmental, Health, and Physical Hazard Information.

For more information, see the relevant Safety Data Sheet.

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### Health Information

**Eye and Skin Contact** – Eye contact with liquid isopropyl acetate may cause severe irritation and severe corneal injury. Eye contact with vapor may cause mild discomfort and redness. Prolonged skin contact may cause slight irritation with local redness and discomfort and possible drying or flaking of the skin. Prolonged contact is unlikely to result in absorption of harmful amounts.

**Inhalation** – Excessive inhalation of isopropyl acetate vapors may cause irritation to the nose, throat, and lungs, as well as central nervous system effects. In confined or poorly ventilated areas, unconsciousness or death could occur.

**Ingestion** – Isopropyl acetate has very low toxicity if small amounts are swallowed.

**Cancer and Birth Defect Information** – This material did not cause cancer in laboratory animals. In laboratory tests isopropyl acetate has been toxic to the fetus at doses toxic to the mother, but is not expected to interfere with reproduction. This material was negative in in vitro and animal genetic toxicity studies.

For more information, see the relevant Safety Data Sheet.

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### Environmental Information

Isopropyl acetate is moderately volatile, and will evaporate from products that contain it. Although the substance is moderately soluble in water, it will have a tendency to evaporate from it. It has minimal tendency to bind to soil or sediment.

Isopropyl acetate is unlikely to persist in the environment. The substance is highly biodegradable, which suggests the chemical will be removed from water and soil environments, including biological wastewater treatment plants.

Isopropyl acetate is not likely to accumulate in the food chain (bioconcentration potential is low) and is practically nontoxic to fish and other aquatic organisms on an acute basis.

For more information, see the relevant Safety Data Sheet.

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### Physical Hazard Information

Isopropyl acetate liquid and vapor are flammable. Isopropyl acetate vapors are heavier than air and can travel long distances, posing an explosion hazard. The material is stable at
recommended storage and use temperatures. Store away from heat, sparks, and flame. Exposure to elevated temperatures can cause isopropyl acetate to decompose.

Isopropyl acetate is incompatible with alkali metal hydroxides, such as sodium hydroxide, as well as nitric acid and strong oxidizers, and contact should be avoided.

For more information, see the relevant Safety Data Sheet.

Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of isopropyl acetate. These regulations may vary by city, state, country, or geographic region. Information may be found by consulting the relevant Safety Data Sheet, Technical Data Sheet, or Contact Us.

Additional Information

- Safety Data Sheet (http://www.dow.com/webapps/msds/msdssearch.aspx)
- Contact Us (http://www.dow.com/oxysolvents/contact/index.htm)


References

1 Isopropyl Acetate Technical Data Sheet, The Dow Chemical Company, Form No. 327-00025-0812
3 Isopropyl Acetate, 99% Safety Data Sheet for the US, The Dow Chemical Company, ID No. 1207/1001
5 Dow Oxygenated Solvents website – Products Center: Acetic Esters (http://www.dow.com/oxysolvents/prod/acetic.htm)

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