

Solution No 2

Safety data for iodine



Click [here](#) for data on iodine in student-friendly format, from the HSci project

Glossary of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

General

Synonyms:

Molecular formula: I_2

CAS No: 7553-56-2

EC No: 231-442-4

EU No: 053-001-00-3

Physical data

Appearance: Purple to black crystals

Melting point: 113 - 114 C

Boiling point: 183 C

Specific gravity: 4.93

Vapour pressure: 0.31 mm Hg at 25 C

Vapour density: 9.0 (air = 1)

Flash point: n/a

Explosion limits: n/a

Autoignition temperature:

Stability

Stable. Oxidizer. Substances to be avoided include strong reducing agents, powdered metals, ammonia, ammonium salts, acetylene, acetaldehyde, combustible materials, aluminium, chemically active metals, carbides, turpentine oils, azides, carbides, ammonium hydroxide, sodium thiosulfate. Sublimes slightly at room temperature.

Toxicology

Toxic - may be fatal if swallowed or inhaled. Corrosive, causes burns. Harmful by inhalation and through skin absorption. UK OES short-term 1 mg/m³ (0.1 ppm). Readily absorbed through skin. Very destructive of mucous membranes and upper respiratory tract, eyes and skin. Severe irritant. Sublimes at room temperature to yield dangerous levels of vapour. May cause sensitization. May cause damage to the unborn child.

Toxicity data

(The meaning of any abbreviations which appear in this section is given [here](#).)

ORL-HMN LDLO 28 mg kg⁻¹

ORL-RAT LD50 14000 mg kg⁻¹ (? Although quoted by a reputable chemical supplier, this value looks unreasonably high compared to that given for humans. However, the same supplier quotes an ORL-MUS LD50 of 22000 mg kg⁻¹, and ORL-RBT LD50 of 10000 mg kg⁻¹.)

UNR-MAN LDLO 29 mg kg⁻¹

Risk phrases

(The meaning of any risk phrases which appear in this section is given [here](#).)

R20 R21 R50. [Note: Annex I does not give R34, corrosive, as a risk phrase.

However, this material is corrosive in contact with the skin and should be handled as though R34 is specified. Furthermore, R20 and R21 are quoted rather than R23 and R24, even though some sources list this material as toxic.]

Environmental information

Very toxic to aquatic organisms - may cause long term harm in the environment.

Transport information

(The meaning of any UN hazard codes which appear in this section is given [here](#).)

UN No 1759. Hazard class 8. Packing group II.

Personal protection

Safety glasses, nitrile gloves. Effective ventilation.

Safety phrases

(The meaning of any safety phrases which appear in this section is given [here](#).)
S23 S25.

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