

1. Product Identification.

Name of product: 1,3-Dioxolane.
Recommended use(s): Fine chemical for synthesis.

2. Composition/ Information on Ingredients.

1,3-dioxolane.
CAS number: 000646-06-0
EC number: 211-463-5
Index number: 605-017-00-2

3. Hazards Identification.

R-phrase: R 11 Highly flammable.

4. First Aid Measures.

General information: Remove contaminated soaked clothing immediately. If you feel unwell, seek medical advice.

In case of inhalation: Move to fresh air in case of accidental inhalation of vapours. In the event of symptoms refer for medical treatment.

In case of skin contact: Wash off with soap and plenty of water. Consult a doctor if skin irritation persists.

In case of eye contact: If eye irritation persists, consult a specialist. Rinse immediately with plenty of water, also under the eyelids.

In case of ingestion: Do not induce vomiting. Summon a doctor immediately. Immediately give plenty of water, if possible charcoal slurry.

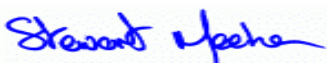
5. Fire Fighting Measures.

Suitable extinguishing material: Foam, carbon dioxide (CO₂), dry chemical, water spray.

Unsuitable extinguishing material: Full water jet.

Special exposure hazards: Fire may product: carbon monoxide and carbon dioxide, formaldehyde vapours.

Protective equipment for fire-fighters: Wear self-contained breathing apparatus and protective suit.



Additional information: Vapours are heavier than air and spread along ground. The vapour/air mixture is explosive, even in empty, uncleaned receptacles. Cool containers at risk with water spray jet.

6. Accidental Release Measures.

Personal precautions: In case of vapour formation use respirator. Ensure adequate ventilation. Remove persons to safety. Use personal protective clothing. Keep away from sources of ignition. Observe protective instructions (see section 7 and 8).

Environmental precautions: Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning up/taking up: Soak up with inert material (e.g. sand, silica gel, acid binder, universal binder). Shovel into suitable container for disposal.

7. Handling & Storage.

Advice on safe handling: Keep container tightly closed. Do not breathe vapours. In case of free handling thoroughly sucking off vapours is necessary. Use only on thoroughly ventilated areas.

Protection against fire and explosion: Keep product and empty container away from heat and sources of ignition. Do not smoke. Take precautionary measures against static discharges.

Storage rooms and vessels: Keep container tightly closed in a dry, cool and well-ventilated place.

Advice on storage compatibility: Incompatible with strong acids and oxidising agents.

Further information – storage: Keep away from food, drink and animal feeding stuffs.

8. Exposure Controls and Personal Protection.

Additional advice on system design: Ensure adequate ventilation, especially in confined areas.

Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A).

Hand protection: Protective gloves resistant to chemicals made of viton, minimum coat thickness 0.7 mm, permeation resistance (wear duration) approx. 480 minutes, i.e. protective glove <vitoject 890> made by KCL. This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions. Requirements can vary as a function of the use. Therefore it is



necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Eye protection: Safety goggles with side protection.

Skin protection: Long sleeved clothing.

General protective measures: Do not inhale vapours. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. Take off immediately all contaminated clothing. Avoid contact with skin, eyes and clothing.

9. Physical and Chemical Properties.

Form:	Liquid.
Colour:	Colourless.
Odour:	Ethereal.
Boiling point:	75.6°C
Melting point:	- 95°C
Flash point:	- 6°C (cc)
Combustion temperature:	274°C
Lower explosion limit:	2.1 vol-%
Upper explosion limit:	20.5 vol-%
Vapour pressure:	133 hPa @ 20°C
Density:	1.0666 g/ml @ 20°C
Relative vapour density:	2.6
Solubility in water:	100%
Viscosity 1 dynamic:	0.6 mPa*s @ 20°C

10. Stability & Reactivity.

Conditions to avoid: To avoid thermal decomposition, do not overheat. Reacts with air to form peroxides.

Materials to avoid: Acids and oxidising agents.

Hazardous decomposition products: Carbon monoxide and carbon dioxide, formaldehyde.

Additional information: No decomposition if stored and applied as directed.



11. Toxicological Information.

Acute toxicity / irritability / sensitisation:

	Value/validation	Species	Method	Remark
LD ₅₀ acute oral	3000 mg/kg	rat		
LD ₅₀ acute dermal	8.48 ml/kg	rabbit		
LC ₅₀ acute inhalation	20.65 mg/l (4 h)	rat		

Experiences mad from practice: Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance. Contact with eyes may cause irritation. Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Additional information: Inhalation of high vapour concentration may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Inhalation of vapours in high concentration may cause irritation of respiratory system. Higher exposure may cause lung edema, circulatory collapse and unconsciousness.

12. Ecological Information.

General regulation: Do not flush into surface water or sanitary sewer system. Slightly water contaminating.

13. Disposal Considerations.

Waste code number: 07 01 04* name of waste: other organic solvents, washing liquids and mother liquors.

Recommendations for the product: Can be incinerated, when in compliance with local regulations. Where possible recycling is preferred to disposal.

Recommendations for packaging: Empty containers should be taken for local recycling, recovery or waste disposal. Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed of like the product.

Recommended cleansing agent: Water.

General information: Wastes marked with an asterisk (*) are considered to be hazardous waste pursuant to Directive 91/689/Eec on hazardous waste.



14. Transport Information.

Land and inland navigation transport (ADR/RID/GGVS/GGVE/ADNR)

Identification: DIOXOLANE.
UN number: 1166
Class: 3
PG: II
Hazard number: 33
Remarks: LQ4: combination packaging: 3 L / 12 L; trays: 1 L / 12 L (20 kg total gross mass).

Marine transport IMDG/GGV See

Proper shipping name: DIOXOLANE
UN number: 1166
Class: 3
PG: II
Marine pollutant: No
EmS-number: 3-06
Remarks: LQ 3.4: combination packaging: 1 L / 30 kg (total gross mass); trays 1 L / 20 kg (total gross mass).

Air transport ICAO / IATA

Proper shipping name: DIOXOLANE
UN / ID number: 1166
Class: 3
PG: II
Remarks: PAC 305 (5 L), CAC 307 (60 L)

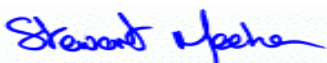
15. Regulatory Information.

Remarks for classification: According to EC-regulations the product is to be labelled as follows:
Classification: F highly flammable.
R-phrases: R 11 Highly flammable.
S-phrases: S 16 Keep away from sources of ignition – no smoking.
Labelling for certain preparations: EC label.
VOC content: 100%

16. Other Information.

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