



1 Identification of substance

- Product details

- Trade name 1,3-dioxolane

- Application of the substance / the preparation

Industrial
Intermediate

- Manufacturer/Supplier:

IMCD España Especialidades Químicas, S.A.
C/ Arequipa 1, 1º
28043 MADRID
Telephone number: +34 91 2034747
Fax number: +34 91 5550374

- Informing department:

Department HSEQ
sds@imcdgroup.com

- Emergency information: Tel. +44(0)3700 492 795 (24h Carechem - Multilingual)

2 Hazards identification

- Hazard designation:



F Highly flammable

- Information pertaining to particular dangers for man and environment

R 11 Highly flammable.

- GHS label elements



Danger

H225 - Highly flammable liquid and vapour.

- Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

- Response:

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

- Disposal:

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

- Chemical characterization:

- CAS No. Designation:

646-06-0 1,3-dioxolane

- EINECS Number (EC-Number): 211-463-5

- Index number: 605-017-00-2

4 First aid measures

- General information Instantly remove any clothing soiled by the product.

- After inhalation Supply fresh air; consult doctor in case of complaints.

- After skin contact

Instantly wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

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- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing**
Do not induce vomiting unless directed to do so by medical personnel.
Rinse out mouth and then drink plenty of water.
Never give anything by mouth to an unconscious person.
Call a doctor immediately.
- **Information for doctor**
 - **Treatment** Symptomatically (decontamination, vital function), no specific antidot known.

5 Fire fighting measures

- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **Special hazards caused by the material, its products of combustion or flue gases:**
Fumes can combine with air to form an explosive mixture.
Can be released in case of fire:
Carbon monoxide (CO)
Carbon dioxide (CO₂)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
Do not inhale explosion gases or combustion gases.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Keep ignition sources away - Do not smoke.
Avoid contact with the eyes and skin.
Avoid inhaling mists and vapours
Use breathing protection against the effects of fumes/dust/aerosol.
Ensure adequate ventilation.
- **Measures for environmental protection:**
Do not allow to enter drainage system, surface or ground water.
Stop leak if possible without risk
Contain any fluid that runs out using suitable material (e.g. earth)
- **Measures for cleaning/collecting:**
Use explosion-proof apparatus / fittings and spark-proof tools.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable containers.
Dispose of the material collected according to regulations.
Ensure adequate ventilation.
- **Additional information:**
See Section 8 for information on personal protection equipment.
See Section 7 for information on safe handling
See Section 13 for information on disposal.
At accidents and/or spillage on the public highway or public surroundings, it is compulsory always to notify/
warn the authorities concerned (police, firebrigade) about the dangerous properties of the product.

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7 Handling and storage

- Handling

- Information for safe handling:

- Open and handle container with care.
- Take note of emission threshold.
- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.
- Avoid contact with skin and eyes.
- Do not breathe vapour.
- Keep away from heat and direct sunlight.
- Store in cool, dry place in tightly closed containers.

- Information about protection against explosions and fires:

- Keep ignition sources away - Do not smoke.
- Protect against electrostatic charges.
- Fumes can combine with air to form an explosive mixture.
- Use explosion-proof apparatus / fittings and spark-proof tools.

- Storage

- Requirements to be met by storerooms and containers:

- Store in a cool location.
- Store only in unopened original containers.

- Information about storage in one common storage facility:

- Do not store together with oxidizing and acidic materials.
- Do not store together with alkalis (caustic solutions).
- Store away from reducing agents.

- Further information about storage conditions:

- Keep container tightly sealed.
- Protect from heat and direct sunlight.
- Store in cool, dry conditions in well sealed receptacles.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

- **Components with critical values that require monitoring at the workplace:** Not required.

- **Additional information:** The lists that were valid during the compilation were used as basis.

- Personal protective equipment

- General protective and hygienic measures

- Keep away from foodstuffs, beverages and food.
- Instantly remove any soiled and impregnated garments.
- Do not eat, drink or smoke while working.
- Wash hands during breaks and at the end of the work.
- Avoid contact with the eyes and skin.
- Do not inhale gases / fumes / aerosols.

- Breathing equipment:



Use breathing protection in case of insufficient ventilation.

- Protection of hands:



Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- Penetration time of glove material

The exact break-through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection:


Safety glasses

Tightly sealed safety glasses.

- Body protection: Protective work clothing.

- Limitation and supervision of exposure into the environment

Do not introduce into waters, sewage water or soil.

9 Physical and chemical properties:
- General Information

- | | |
|------------------|----------------|
| - Form: | Fluid |
| - Colour: | Colourless |
| - Smell: | Characteristic |

- Change in condition

- | | |
|---------------------------------------|---------|
| - Melting point/Melting range: | -26.4°C |
| - Boiling point/Boiling range: | 75°C |

- Flash point:

-6°C

- Ignition temperature:

274°C

- Danger of explosion:

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- Critical values for explosion:

- | | |
|-----------------|------------|
| - Lower: | 2.1 Vol % |
| - Upper: | 20.5 Vol % |

- Vapour pressure at 20°C:

133 hPa

- Density at 20°C

1.06 g/cm³

- Solubility in / Miscibility with

- | | |
|-----------------|----------------|
| - Water: | Fully miscible |
|-----------------|----------------|

- Partition coefficient (n-octanol/water): -0.37 log POW

10 Stability and reactivity

- **Conditions to be avoided:** No decomposition under normal storage and handling conditions.

- Materials to be avoided:

Strong oxidizing agents
Strong acids
Bases

Strong reducing agents

- **Dangerous reactions** No dangerous reactions known

- **Dangerous products of decomposition:** None


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11 Toxicological information

- Acute toxicity:

- LD/LC50 values that are relevant for classification:

Oral	LD50	3000 mg/kg (rat)
Dermal	LD50	8480 mg/kg (rabbit)
Inhalative	LC50/4 h	20650 mg/l (rat)

- Primary irritant effect:

- **on the skin:** May cause irritation.

- **on the eye:** May cause irritation.

- **Sensitization:** No sensitizing effect known.

12 Ecological information:

- Information about elimination (persistence and degradability):

- **Degree of elimination:** 3.7% / 35d

- **Other information:** The product is not readily biodegradable.

- Ecotoxicological effects:

- Aquatic toxicity:

- Type of test Effective concentration Method Assessment

EC50/48h	6.2-7.8 mg/l (Daphnia magna)
LC50/96h	8.3-12 mg/l (Sheepshead minnows)

- Additional ecological information:

- General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

13 Disposal considerations

- Product:

- Recommendation

Observe local/state/federal regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

After prior treatment product has to be disposed of in an incinerator for hazardous waste under adherence to the regulations pertaining to the disposal of particularly hazardous waste.

- Uncleaned packagings:

- Recommendation:

Disposal must be made according to official regulations.

Packagings must not be cleaned or reused (dangerous restproduct) and are to be disposed of in the same manner as the product.

- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

14 Transport information

- Land transport ADR/RID and GGVs/GGVE (cross-border/domestic)



- **ADR/RID-GGVs/E Class:** 3 (F1) Flammable liquids.

- **Kemler Number:** 33

- **UN-Number:** 1166

- **Packaging group:** II

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- Label 3
- Designation of goods: 1166 DIOXOLANE
- Limited quantities (LQ) LQ4
- Transport category 2
- Tunnel restriction code D/E

- Maritime transport IMDG/GGVSea:


- IMDG/GGVSea Class: 3
- UN Number: 1166
- Label 3
- Packaging group: II
- EMS Number: F-E,S-D
- Marine pollutant: No
- Correct technical name: DIOXOLANE

- Air transport ICAO-TI and IATA-DGR:


- ICAO/IATA Class: 3
- UN/ID Number: 1166
- Label 3
- Packaging group: II
- Correct technical name: DIOXOLANE

- UN "Model Regulation": UN1166, DIOXOLANE, 3, II

15 Regulatory information
- Designation according to EC guidelines:

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

- Code letter and hazard designation of product:


F Highly flammable

- Risk phrases:

11 Highly flammable.

- Safety phrases:

2 Keep out of the reach of children.
 16 Keep away from sources of ignition - No smoking.

16 Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing data specification sheet:** Departamento de seguridad

- Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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