SAFETY DATA SHEET

Creation Date 01-Jun-2010 **Revision Date** 19-Dec-2025 **Revision Number** 6

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

1. Identification

Product Name **1,3-Dioxolane, anhydrous stabilized with 75 ppm BHT**

Cat No. : **AC431560000; AC431560010; AC431561000**

CAS No 646-06-0
Synonyms 1,3-Dioxacyclopentane

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company
Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Flammable liquids	Category 2
Serious Eye Damage/Eye Irritation	Category 2

Label Elements

Signal Word
Danger

Hazard Statements
Highly flammable liquid and vapor
Causes serious eye irritation

Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground and bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Wear protective gloves/protective clothing/eye protection/face protection
Take action to prevent static discharges
Use non-sparking tools
Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Fire
In case of fire: Use CO2, dry chemical, or foam to extinguish
Storage
Store in a well-ventilated place. Keep cool
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
None identified

Hazards classified under paragraph (d)(1)(ii) of 1910.1200
No information available
Other hazards
Contains a known or suspected endocrine disruptor.

3. Composition/information on Ingredients

Component	CAS No	Weight %
1,3-Dioxolane	646-06-0	>95
2,6-Di-tert-butyl-p-cresol	128-37-0	0.006-0.008

4. First-aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects	. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
Unsuitable Extinguishing Media	No information available
Flash Point	-6 °C / 21.2 °F
Method -	No information available
Autoignition Temperature	274 °C / 525.2 °F

Explosion Limits

Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products
Carbon monoxide (CO). Carbon dioxide (CO_2).
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
2	3	2	N/A

6. Accidental release measures

Personal Precautions	Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
Environmental Precautions	Should not be released into the environment.
Methods for Containment and Clean Up	Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and Storage

Handling	Wear personal protective equipment/face protection. Avoid ingestion and inhalation. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.
Storage.	Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
1,3-Dioxolane	TWA: 20 ppm			TWA: 20 ppm
2,6-Di-tert-butyl-p-cresol	TWA: 2 mg/m³	(Vacated) TWA: 10 mg/m³	REL = 10 mg/m³ (TWA)	TWA: 2 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection No protective equipment is needed under normal use conditions.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance

Physical State	Liquid	
Color	Colorless	
Odor	No information available	
Odor Threshold	No information available	
Property	**Values**	**Remarks • Method**
Melting Point/Range	-95 °C / -139 °F	
Softening Point	No data available	
Boiling Point/Range	74 - 75 °C / 165.2 - 167 °F	@ 760 mmHg
Flash Point	-6 °C / 21.2 °F	**Method -** No information available
Flammability (liquid)	Highly flammable	On basis of test data
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available **Lower** 2.1 vol% **Upper** 20.5 vol%	
Autoignition Temperature	274 °C / 525.2 °F	
Decomposition Temperature	No data available	
pH	No information available	
Viscosity	0.66 mPa.s @ 20 °C	
Water Solubility	Soluble	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	log Pow
1,3-Dioxolane	-0.37
2,6-Di-tert-butyl-p-cresol	5.1

Vapor Pressure	70 mmHg @ 20 °C	
Density / Specific Gravity	1.060	
Bulk Density	Not applicable	Liquid
Vapor Density	No data available	(Air = 1.0)

Particle characteristics Not applicable (liquid)

Other Information
Molecular Formula C3 H6 O2
Molecular Weight 74.08
Explosive Properties Vapors may form explosive mixtures with air

10. Stability and reactivity

Reactive Hazard Yes

Stability May form explosive peroxides.

Conditions to Avoid Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to moist air or water.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Information on expected route of exposure

Inhalation May cause irritation of respiratory tract.
Ingestion May cause irritation.
Eyes May cause irritation.
Skin May cause irritation.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,3-Dioxolane	LD50 = 3 g/kg (Rat)	LD50 = 8480 mg/kg (Rabbit)	LC50 = 68.4 mg/L (Rat) 4 h
2,6-Di-tert-butyl-p-cresol	> 6 g/kg (Rat)	> 2 g/kg (Rat)	-

Toxicologically Synergistic Products No information available

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity;

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
1,3-Dioxolane	646-06-0	Not listed	Not listed	Not listed	Not listed	Not listed
2,6-Di-tert-butyl-p-cresol	128-37-0	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Other Adverse Effects The toxicological properties have not been fully investigated.

Endocrine Disrupting Properties .
Assess endocrine disrupting properties for human health Contains a substance on the National Authorities Endocrine Disruptor Lists

Component	EU National Authorities Endocrine Disruptor Lists - Health
2,6-Di-tert-butyl-p-cresol 128-37-0 (0.006-0.008)	List II

12. Ecological information

Ecotoxicity
Do not empty into drains. .

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
1,3-Dioxolane	Not listed	>100 mg/L	Not listed	>772 mg/L
2,6-Di-tert-butyl-p-cresol	EC50 = 0.758 mg/L 96h EC50 = 6 mg/L 72 h	LC50 = 0.199 mg/L 96h	EC50 = 7.82 mg/L 5 min EC50 = 8.57 mg/L 15 min EC50 = 8.98 mg/L 30 min	EC50 >0.31 mg/L 48h

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

Component	log Pow
1,3-Dioxolane	-0.37
2,6-Di-tert-butyl-p-cresol	5.1

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No	UN1166
Proper Shipping Name	DIOXOLANE
Hazard Class	3
Packing Group	II

TDG

UN-No	UN1166
Proper Shipping Name	DIOXOLANE
Hazard Class	3
Packing Group	II

IATA

UN-No	UN1166
Proper Shipping Name	DIOXOLANE
Hazard Class	3
Packing Group	II

IMDG/IMO

UN-No	UN1166
Proper Shipping Name	DIOXOLANE
Hazard Class	3
Packing Group	II

15. Regulatory Information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
1,3-Dioxolane	646-06-0	X	ACTIVE	-
2,6-Di-tert-butyl-p-cresol	128-37-0	X	ACTIVE	-

Legend:
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
1,3-Dioxolane	646-06-0	X	-	211-463-5	X	X	X	-	X	KE-12027
2,6-Di-tert-butyl-p-cresol	128-37-0	X	-	204-881-4	X	X	X	X	X	KE-03079

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
1,3-Dioxolane	X	X	X	-	-
2,6-Di-tert-butyl-p-cresol	X	X	X	-	X

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH Not applicable

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
1,3-Dioxolane	646-06-0	-	-	-
2,6-Di-tert-butyl-p-cresol	128-37-0	-	-	-

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
1,3-Dioxolane	646-06-0	Listed	Not applicable	Not applicable	Not applicable
2,6-Di-tert-butyl-p-cresol	128-37-0	Listed	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?
Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
1,3-Dioxolane	646-06-0	Not applicable	Not applicable	Not applicable	Not applicable
2,6-Di-tert-butyl-p-cresol	128-37-0	Not applicable	Not applicable	Not applicable	Not applicable

16. Other Information

Prepared By
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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS