

SAFETY DATA SHEET



Product name:	DUROCIT-3 LIQUID II	Page:	1/11
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Document No.:	M0191	SDS-ID:	US-EN/1.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name: DUROCIT-3 LIQUID II
Cat. No.40200095, 40200097

Container size: 150 ml, 1l

Relevant identified uses of the substance or mixture and uses advised against

Application: For embedding of materialographic specimens

Details of the supplier of the safety data sheet

Supplier: Struers A/S
Pederstrupvej 84
DK-2750 Ballerup
Tel:+45 44 600 800

Responsible for material safety data sheet authoring: Responsible for material safety data sheet authoring: DHI
Any questions to the contents of this material safety data sheet should be sent to:
Chemical.info@struers.dk

Emergency telephone number

Emergency telephone: Infotrac:
1-800-535-5053
Struers US:
1-440-871-0071

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SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

The product is classified:

67/548/EEC / 1999/45/EC: F;R11 Repr3;R63 Xn;R20 Xi;R37/38

GHS: Flam. Liq. 2;H225 - Skin Irrit. 2;H315 - Skin Sens. 1;H317 - Repr. 2;H361d - STOT SE 3;H335 - STOT RE 2;H373H

Label elements



Danger

Contains: Methyl 2-methylprop-2-enoate
Styrene

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H361d Suspected of damaging the unborn child.
H373H May cause damage to organs (hearing organs) through prolonged or repeated exposure.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe gas, fume, vapours or spray.
P280 Wear protective clothing, gloves, eye and face protection.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P501 Dispose of contents/container in accordance with local regulations.
NFPA Rating: Health: 2 Fire: 3 Reactivity: 0 Other: -

Other hazards

The product is highly flammable, and explosive vapors/air mixtures may be formed even at normal room temperatures.

PBT/vPvB: Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

The product contains: Methyl 2-methylprop-2-enoate and Styrene.

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67/548/EEC:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No.:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
25-50	80-62-6	201-297-1	-	Methyl 2-methylprop-2-enoate	F;R11 R43 Xi;R37/38	D
5-<10	100-42-5	202-851-5	-	Styrene	R10 Repr3; R63 Xn;R20-48/20 Xi;R36/38	D
<1	99-97-8	202-805-4	-	N,N-Dimethyl-p-toluidine	T;R23/24/25 R33 R52-53	C

GHS:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No.:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
25-50	80-62-6	201-297-1	-	Methyl 2-methylprop-2-enoate	Flam. Liq. 2;H225 STOT SE 3;H335 Skin Irrit. 2;H315 Skin Sens. 1;H317	D
5-<10	100-42-5	202-851-5	-	Styrene	Flam. Liq. 3;H226 Repr. 2;H361d Acute Tox. 4;H332 STOT RE 1;H372H Eye Irrit. 2;H319 Skin Irrit. 2;H315	D
<1	99-97-8	202-805-4	-	N,N-Dimethyl-p-toluidine	Acute Tox. 3;H331 Acute Tox. 3;H311 Acute Tox. 3;H301 STOT RE 2;H373 Aquatic Chronic 3;H412	C

References: The full text for all R-phrases and hazard statements are displayed in section 16.

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SECTION 4: FIRST AID MEASURES

Description of first aid measures

Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

Inhalation: Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring these instructions.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and bring these instructions.

Eye contact: Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring along these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions. Do not induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms/effects: See section 11 for more detailed information on health effects and symptoms.

Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Not known.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

Special hazards arising from the substance or mixture

Specific hazards: During fire, health hazardous gases may be formed.

Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid inhalation of vapors and contact with skin and eyes.

Environmental precautions

Environmental precautions: Do not discharge into drains, water courses or onto the ground.

Methods and material for containment and cleaning up

Spill Cleanup Methods: Absorb spillage with non-combustible, absorbent material.

Reference to other sections

References: For personal protection, see section 8. For waste disposal, see section 13.

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SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Safe handling advice: Avoid inhalation of vapors and contact with skin and eyes.

Technical measures: Use work methods which minimize aerosol production. Do not smoke or use open fire or other sources of ignition. Do not eat, drink or smoke when using the product.

Technical precautions: Local exhaust is recommended.

Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: Follow rules for flammable liquids.

Storage conditions: Store in tightly closed original container in a dry and cool place.

Specific end use(s)

Specific use(s): Not relevant.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
80-62-6	Methyl methacrylate	-	100 ppm 410 mg/m3	TWA	-	OSHA
100-42-5	Styrene	-	100 ppm	TWA	-	OSHA
		-	200 ppm	STEL	5min	
		-	600 ppm	CLV	-	
100-42-5	Styrene, monomer	-	20 ppm	TWA	A4; BEI	ACGIH
		-	40 ppm	STEL	A4; BEI; 15min	
80-62-6	Methyl methacrylate	-	50 ppm	TWA	SEN; A4	ACGIH
		-	100 ppm	STEL	SEN; A4; 15min	

Notes:

A4: Not Classifiable as a Human Carcinogen.
SEN: Sensitizer.

Exposure controls

Engineering measures:

Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors.

Personal protection:

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Respiratory equipment:

In case of inadequate ventilation: Use respiratory equipment with gas filter, type A2.

Hand protection:

Wear protective gloves. Lamine (PE/EVOH) gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection:

Wear goggles/face shield.

Skin protection:

Wear apron or protective clothing in case of splashes.

Hygiene measures:

Remove contaminated clothing and wash the skin thoroughly with soap and water after work. When using do not eat, drink or smoke.

Environmental Exposure Controls:

Not available.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance: light green liquid
Odor: characteristic
pH: Not available.
Boiling point: 100°C
Flash point: 12°C
Explosion limits: 2,1-12,5 vol%
Vapor pressure: 47 hPa (20°C)
Relative density: 1,05
Solubility: Immiscible with water.

Other information

Other data: Volatile Organic Compound (VOC): approx. 650 g/l (calculated)

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Reactivity: None known.

Chemical stability

Stability: Stable under normal temperature conditions.

Possibility of hazardous reactions

Hazardous Reactions: None known.

Conditions to avoid

Conditions/materials to avoid: Avoid exposure to high temperatures or direct sunlight. Avoid contact with oxidizing agents.

Incompatible materials

Incompatible materials: None known.

Hazardous decomposition products

Hazardous decomposition products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

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SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhalation: Vapors may irritate throat and respiratory system and cause coughing. In high concentrations, vapors are narcotic and may cause headache, fatigue, dizziness and nausea.

Skin contact: Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Direct contact may irritate.

Ingestion: May irritate and cause malaise.

Specific effects: Suspected of damaging the unborn child.
May cause damage to organs (hearing organs) through prolonged or repeated exposure.

Carcinogenicity:
IARC Cancer Review: Group 2B for Styrene.
IARC Cancer Review: Group 3 for Methyl methacrylate.
National Toxicology Program (NTP): No.
OSHA: No.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity: The product contains a substance which causes risk of hazardous effects to the environment.

Persistence and degradability

Degradability: The degradability of the product has not been stated.

Bioaccumulative potential

Bioaccumulative potential: No data available on bioaccumulation.

Mobility in soil

Mobility: No data available.

Results of PBT and vPvB assessment

PBT/vPvB: Not relevant.

Other adverse effects

Other adverse effects: The product contains volatile, organic compounds which have a photochemical ozone creation potential.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. Waste is classified as hazardous waste. Note that fully cured material is not considered as hazardous waste.

Waste from residues: EWC-code: 16 05 08

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SECTION 14: TRANSPORT INFORMATION

UN number

UN-No: 1866

UN proper shipping name

Proper Shipping Name: RESIN SOLUTION, flammable

Additional IMDG information:
EmS: F-E, S-E
MFAG: 1

Transport hazard class(es)

Class: 3

Packing group

PG: II

Environmental hazards

Marine pollutant: No.

Environmentally Hazardous substance: No.

Special precautions for user

Special precautions: None known.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk: Not relevant.

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SECTION 15: REGULATORY INFORMATION

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

Special provisions: TSCA: Listed.

As a general rule, persons under 18 years of age are not allowed to work with this product. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.

National regulation: Europe/USA:
This Material Safety Data Sheet has been prepared according to the EU-regulation.

Threshold Limit Values (2014), ACGIH, by the American Conference on Governmental Industrial Hygienists.
The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Air contaminants (OSHA), with amendments.
U.S. Department of health and human services: 2011 - Report on Carcinogens - 12th Edition.
International Agency for Research on Cancer (IARC): IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: IARC, World Health Organization.

Chemical Safety Assessment

CSA status: Not relevant.

SECTION 16: OTHER INFORMATION

For restrictions on use see section 15.

The following sections contain revisions or new statements: -
The (*) indicates the changes made with respect to the previous version.

Approved by DHI.



Additional information: Classification according to Regulation (EC) No. 1272/2008:
Calculation method.

Wording of H-statements:

R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.

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R37/38	Irritating to respiratory system and skin.
R40	Limited evidence of a carcinogenic effect.
R43	May cause sensitisation by skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child.
H372H	Causes damage to organs (hearing organs) through prolonged or repeated exposure.
H373H	May cause damage to organs (hearing organs) through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DHI - Environment and Toxicology, Artens Allé 5, DK-2970 Hørsholm, Denmark.
www.dhigroup.com.
