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Document No.:	M0190	SDS-ID:	CA-EN/7.0

1. IDENTIFICATION

Product identifier

Product name: DUROCIT-3 LIQUID I
Cat. No.40200095, 40200096

Container size: 300 ml, 1l

Recommended use and restrictions on use

Application: For embedding of materialographic specimens

Uses advised against: No specific uses advised against are identified. (*)

Details of the supplier of the safety data sheet

Supplier: Struers Ltd
7275 West Credit Avenue
Ontario L5N 5M9 Mississauga
Canada
Tel:+1 (905) 8148855

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

Emergency telephone number

Alberta & NWT:
Poison & Drug Information Service (PADIS): 1-800-332-1414
British Columbia:
Drug and Poison Information Centre (DPIC): 604-682-5050 / 1-800-567-8911
Ontario:
Poison Centre: 1-800-268-9017
Québec:
Poison Control Centre: 1-800-463-5060

Infotrac:
1-800-535-5053
Struers CAN:
+1 (905) 8148855
(Only during office hours)

2. HAZARDS IDENTIFICATION

Classification of the hazardous product

WHMIS 2015: Flammable Liquids — Category 3
Aspiration Hazard — Category 1
Skin Irritation — Category 2
Eye Irritation — Category 2
Skin Sensitizer — Category 1
Reproductive Toxicity — Category 2
Specific Target Organ Toxicity — Repeated Exposure — Category 1

Label elements

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Danger

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H372H	Causes damage to organs (hearings organs) through prolonged or repeated exposure.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective clothing, gloves, eye and face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P260	Do not breathe gas, fume, vapours or spray.
P264	Wash contaminated skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

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P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use alcohol resistant foam, carbon dioxide or dry powder to extinguish.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local regulations.

Other hazards

PBT/vPvB: No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

The product contains: Methyl methacrylate and Styrene.

WHMIS 2015:

<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	100-42-5	202-851-5	-	Styrene	Flammable Liquids Category 3 Acute (Inhalation) Toxicity Category 4 Skin Irritation Category 2 Eye Irritation Category 2 Reproductive Toxicity Category 2 Specific Target Organ Toxicity Repeated Exposure Category 1 Aspiration Hazard Category 1 Aquatic Chronic Toxicity Category 3	
10-<20	80-62-6	201-297-1	-	Methyl 2-methylprop-2-enoate	Flammable Liquids Category 2 Skin Irritation Category 2 Skin Sensitizer Category 1B Specific Target Organ Toxicity Single Exposure Category 3	

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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 take along 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 take along these instructions.

Eye contact: Immediately flush with plenty of water for at least 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: Aspiration hazard: Risk of chemical pneumonia after aspiration. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure. 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: Treat symptomatically.

5. FIRE-FIGHTING 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.
Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the hazardous product

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

Advice for fire-fighters

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

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Avoid inhalation of vapors and contact with skin and eyes. For personal protection, see section 8.

For emergency responders: No specific recommendations. For personal protection, see section 8.

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 items

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

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): No information available.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Other provincial OEL's may apply.

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 (monomer)	-	100 ppm	410 mg/m3	TWA	S	Quebec
80-62-6	Methyl methacrylate	-	50 ppm	205 mg/m3	TWA	-	Alberta
		-	100 ppm	410 mg/m3	STEL	15min	
80-62-6	Methyl methacrylate	-	50 ppm		TWA	S	BC
		-	100 ppm		STEL	S;	
100-42-5	Styrene (monomer)	-	50 ppm	213 mg/m3	TWA	Pc; C3	Quebec
		-	100 ppm	425 mg/m3	STEL	Pc; C3; 15min	
100-42-5	Styrene (monomer)	-	20 ppm	85 mg/m3	TWA	-	Alberta
		-	40 ppm	170 mg/m3	STEL	15min	
100-42-5	Styrene, monomer	-	50 ppm		TWA	2B	BC
		-	75 ppm		STEL	2B;	
100-42-5	Styrene, monomer	-	35 ppm		TWA	Ont	Ontario
		-	100 ppm		STEL	Ont; 15min	

Notes:

S: Sensitizer.

Pc: SKIN (percutaneous).

C3: Carcinogenic effect detected in animals.

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 relevant 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. Butyl rubber gloves are recommended, but 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.

Thickness: 0,3 mm

Breakthrough time: 60 min (*)

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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9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<u>Form:</u>	Liquid.
<u>Colour:</u>	Colourless.
<u>Odour:</u>	Characteristic.
<u>Odour threshold:</u>	Not available.
<u>pH:</u>	Not determined.
<u>Melting point:</u>	Not available.
<u>Boiling point:</u>	101°C
<u>Flash point:</u>	26°C
<u>Evaporation rate:</u>	Not available.
<u>Flammability (solid, gas):</u>	Not available.
<u>Explosion limits:</u>	1.2-12.5 vol%
<u>Vapour pressure:</u>	47 hPa (20°C)
<u>Vapour density:</u>	Not available.
<u>Relative density:</u>	1.1
<u>Solubility:</u>	Immiscible with water.
<u>Partition coefficient (n-octanol/water):</u>	Not available.
<u>Auto-ignition temperature (°C):</u>	Not available.
<u>Decomposition temperature (°C):</u>	Not available.
<u>Viscosity:</u>	< 20.5 mm ² /s (40°C)
<u>Explosive properties:</u>	Not available.
<u>Oxidising properties:</u>	Not available.
<u>Other information</u>	
<u>Other data:</u>	Volatile Organic Compound (VOC): approx. 650 g/l (calculated)

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10. STABILITY AND REACTIVITY

Reactivity

Reactivity: No data available.

Chemical stability

Stability: Stable under normal temperature conditions.

Possibility of hazardous reactions

Hazardous Reactions: No data available.

Conditions to avoid

Conditions/materials to avoid: Avoid exposure to high temperatures or direct sunlight.

Incompatible materials

Incompatible materials: Avoid contact with oxidizing agents.

Hazardous decomposition products

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

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute Toxicity (Oral): Based on available data, the classification criteria are not met.

Acute Toxicity (Dermal): Based on available data, the classification criteria are not met.

Acute Toxicity (Inhalation): Based on available data, the classification criteria are not met.

Skin Corrosion/Irritation: Causes skin irritation.

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory or skin sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.
National Toxicology Program (NTP): Group R for Styrene.
IARC Cancer Review: Group 2A for Styrene.
IARC Cancer Review: Group 3 for Methyl methacrylate.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

STOT - Single exposure: Based on available data, the classification criteria are not met.

STOT - Repeated exposure: Causes damage to organs (hearing organs) through prolonged or repeated exposure.

Aspiration hazard: May be fatal if swallowed and enters airways.

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.

Ingestion: May irritate and cause malaise.

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12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity: Harmful to aquatic life with long lasting effects.

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: No information available.

Other adverse effects

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

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues: Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Note that fully cured material is not considered as hazardous waste.

Contaminated packaging: Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

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14. TRANSPORT INFORMATION

The product is covered by international regulation on the transport of dangerous goods (IMDG, IATA).

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: III

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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15. REGULATORY INFORMATION

Safety, health and environmental regulations specific to the product

Special provisions: This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

DSL: All chemicals included in the product are DSL listed or exempt.

National regulation: Hazardous Products Regulations, with amendments.
British Columbia: Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, with amendments (2015).
Ontario: Control of Exposure to Biological or Chemical Agents R.R.O. 1990, Reg. 833, with amendments (2016).
Quebec: Regulation respecting the quality of the work environment, with amendments (2013-12-13).
Alberta: Occupational Health and Safety Code 2009.
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.

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16. OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 1, 8.
The (*) indicates the changes made with respect to the previous version.

Approved by DHI.

Allan Vorup

Abbreviations and acronyms used in the safety data sheet: PBT = Persistent, Bioaccumulative and Toxic.
vPvB = very Persistent and very Bioaccumulative.

Additional information: Classification according to WHMIS 2015:
Calculation method.

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, Agern Allé 5, DK-2970 Hørsholm, Denmark.
www.dhigroup.com.
