



O-Fix

Safety Data Sheet

according to the Model Work Health and Safety Regulations

Date of issue: 30/11/2018

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Version: 1.0

SECTION 1: Identification : Product identifier and chemical identity

1.1. Product identifier

Trade name : O-Fix
Product code : 3800675, 3800676

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Specialty fixative
Restrictions on use : Other uses

1.4. Supplier's details

Leica Microsystems Pty Ltd
Suite 2, Level 3, Building A, Talavera Road
Macquarie Park - 2113 Australia

1.5. Emergency phone number

Organisation/Company	Emergency number
ChemTrec	800-424-9300
International Calls (call collect)	+1 703-527-3887
Australia 24 Hr Poisons Information Centre	13 11 26

SECTION 2: Hazards identification

2.1. Classification of the hazardous chemical

Classification according to the model Work Health and Safety Regulations (WHS Regulations)

Flammable liquids, Category 3 H226
Skin corrosion/irritation, Category 1A H314

2.2. Label elements

Signal word (GHS-AU) : Danger
Hazard statements (GHS-AU) : H226 - Flammable liquid and vapour
H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS-AU) : P210 - Keep away from heat, sparks, open flames, hot surfaces. No smoking.
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe mist/vapours/spray.
P264 - Wash thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P321 - Specific treatment (see supplemental first aid instruction on this label)
P363 - Wash contaminated clothing before reuse
P370+P378 - In case of fire: Use dry chemical, foam, or water spray for extinction.
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container in accordance with all local/regional/national/international regulations

2.3. Other hazards

No additional information available

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SECTION 3: Composition/information on ingredients

Name	CAS-No.	Compound type	%	Classification according to the model Work Health and Safety Regulations (WHS Regulations)
Ethanol	64-17-5		< 70	Not classified
methanol	67-56-1		< 5	Flam. Liq. 2, H225
acetic acid	64-19-7		< 7	Flam. Liq. 3, H226 Acute Tox. 5 (Oral), H303 Skin Corr. 1A, H314
Isopropanol	67-63-0		< 4	Not classified
Formaldehyde	50-00-0		< 4	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Symptoms caused by exposure

Symptoms/effects after skin contact	: Burns. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

4.3. Indication of any immediate medical attention and special treatment needed

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid and vapour.
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5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe mist/vapours/spray.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
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SECTION 7: Handling and storage, including how the chemical may be safely used

7.1. Precautions for safe handling

Additional hazards when processed	: In the United States, refer to OSHA 1910.1048 for requirements for handling of formaldehyde solutions.
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Precautions for safe handling	: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe mist/vapours/spray. Avoid contact with skin and eyes.
Hygiene measures	: Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Ground/bond container and receiving equipment.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters - exposure standards

Ethanol (64-17-5)		
USA - ACGIH	ACGIH STEL (ppm)	1000 ppm (Ethanol; USA; Short time value; TLV - Adopted Value)

acetic acid (64-19-7)		
USA - ACGIH	ACGIH TWA (ppm)	10 ppm (Acetic acid; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	ACGIH STEL (ppm)	15 ppm (Acetic acid; USA; Short time value; TLV - Adopted Value)

methanol (67-56-1)		
USA - ACGIH	ACGIH TWA (ppm)	200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	ACGIH STEL (ppm)	250 ppm (Methanol; USA; Short time value; TLV - Adopted Value)

Isopropanol (67-63-0)		
USA - ACGIH	ACGIH TWA (ppm)	200 ppm (2-propanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	ACGIH STEL (ppm)	400 ppm (2-propanol; USA; Short time value; TLV - Adopted Value)
USA - ACGIH	Remark (ACGIH)	Eye & URT irr; CNS impair

Exposure limit values for the other components

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

8.4. Personal protective equipment

Hand protection	: Protective gloves
Eye protection	: Safety glasses
Skin and body protection	: Wear suitable protective clothing

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Respiratory protection	: None needed with adequate ventilation. If the occupational exposure limit is exceeded, use an approved organic vapor respirator. Selection of respiratory protection depends on the contaminant type, form, and concentration. Select in accordance with OSHA 1910.134 or other applicable regulations and good industrial hygiene practice.
Environmental exposure controls	: Avoid release to the environment.

SECTION 9: Physical and chemical properties

Physical state	: Liquid
Colour	: Colourless
Odour	: Pungent
Odour threshold	: No data available
pH	: 2.3 - 3
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Boiling point	: No data available
Flash point	: 77 °F /25 °C
Auto-ignition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Density	: 0.9
Solubility	: No data available
Log Pow	: No data available
Viscosity	: No data available
Explosive properties	: No data available
Explosive limits	: No data available
Minimum ignition energy	: No data available
Fat solubility	: No data available

SECTION 10: Stability and reactivity

Reactivity	: Highly flammable liquid and vapour.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg bodyweight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit; Literature study)
acetic acid (64-19-7)	
LD50 oral rat	3310 mg/kg bodyweight (Rat; Other; Read-across)
methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)

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Isopropanol (67-63-0)	
LD50 dermal rabbit	12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit)
LC50 inhalation rat (mg/l)	73 mg/l/4h (Rat)

Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 2.3 - 3
Serious eye damage/irritation	: pH: 2.3 - 3
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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Density	0.9

SECTION 12: Ecological information

According to the National Code of Practice for the Preparation of Material Safety Data Sheets, Environmental classification information is not mandatory. Information relevant for GHS classification is available on request

12.1. Ecotoxicity

Ecology - general	: Before neutralisation, the product may represent a danger to aquatic organisms.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

12.2. Persistence and degradability

Ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O ₂ /g substance
Chemical oxygen demand (COD)	1.7 g O ₂ /g substance
ThOD	2.1 g O ₂ /g substance
BOD (% of ThOD)	0.43

acetic acid (64-19-7)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 0.74 g O ₂ /g substance
Chemical oxygen demand (COD)	1.03 g O ₂ /g substance
ThOD	1.07 g O ₂ /g substance

methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance
BOD (% of ThOD)	0.8 (Literature study)

Formaldehyde (50-00-0)	
Persistence and degradability	Readily biodegradable in water. No (test)data on mobility of the components available. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.64 g O ₂ /g substance
Chemical oxygen demand (COD)	1.06 g O ₂ /g substance
ThOD	1.068 g O ₂ /g substance
BOD (% of ThOD)	0.6

Isopropanol (67-63-0)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available.

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Isopropanol (67-63-0)	
Biochemical oxygen demand (BOD)	1.19 g O ₂ /g substance
Chemical oxygen demand (COD)	2.23 g O ₂ /g substance
ThOD	2.4 g O ₂ /g substance

12.3. Bioaccumulative potential

Ethanol (64-17-5)	
BCF fish 1	See section 12.1 on ecotoxicology
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

acetic acid (64-19-7)	
BCF fish 1	See section 12.1 on ecotoxicology
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

methanol (67-56-1)	
BCF fish 1	See section 12.1 on ecotoxicology
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Formaldehyde (50-00-0)	
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Bioaccumulation: not applicable.

Isopropanol (67-63-0)	
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

Ethanol (64-17-5)	
Surface tension	0.022 N/m (20 °C)
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology

acetic acid (64-19-7)	
Surface tension	0.028 N/m (20 °C)
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology

Formaldehyde (50-00-0)	
Log Pow	See section 12.1 on ecotoxicology

Isopropanol (67-63-0)	
Surface tension	0.021 N/m (25 °C)
Log Pow	See section 12.1 on ecotoxicology

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal considerations

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
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SECTION 14: Transport information

14.1. UN number

UN-No. (IMDG) : 2924
UN-No. (IATA) : 2924

14.2. Proper Shipping Name - Addition

Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Proper Shipping Name (IATA) : Flammable liquid, corrosive, n.o.s.

14.3. Transport hazard class(es)

IMDG

Transport hazard class(es) (IMDG) : 3 (8)
Danger labels (IMDG) : 3, 8
:



IATA

Transport hazard class(es) (IATA) : 3 (8)
Hazard labels (IATA) : 3, 8
:



14.4. Packing group

Packing group (IMDG) : III
Packing group (IATA) : III

14.5. Environmental hazards

Marine pollutant : No

14.6. Special precautions for user

Specific storage requirement : No data available
Shock sensitivity : No data available

14.7. Additional information

Other information : No supplementary information available

Transport by road and rail

Not applicable

Transport by sea

UN-No. (IMDG) : 2924
Special provisions (IMDG) : 223, 274
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP28
EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage) : S-C - SPILLAGE SCHEDULE Charlie - FLAMMABLE CORROSIVE LIQUIDS
Stowage category (IMDG) : A
Flash point (IMDG) : 77F/25C

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Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

Air transport

UN-No. (IATA) : 2924
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y342
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 354
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 365
CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3
ERG code (IATA) : 3C

14.8. Hazchem or Emergency Action Code

Hazchemcode : Not applicable

SECTION 15: Regulatory information

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

No additional information available

15.2. International agreements

No additional information available

SECTION 16: Any other relevant information

Revision date : 30/11/2018

Classification:

Flam. Liq. 3	H226
Skin Corr. 1A	H314

Full text of H-statements:

Acute Tox. 5 (Oral)	Acute toxicity (oral), Category 5
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H303	May be harmful if swallowed
H314	Causes severe skin burns and eye damage

SDS Australia Leica

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product