



SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/18/2015

Revision Date 08/13/2012

1 Identification of the Substance/Mixture and Company

Product Name: Optimal Fix

MSDS Code: SSFXOPT

Product Description: Tissue Fixative

Manufacturer/Supplier:

American MasterTech
1330 Thurman Street
Lodi, CA 95240
USA
(800) 860-4073

European Authorized Representative:

Emergo Europe
Moleensraat 15
2513 BH The Hague,
The Netherlands

Emergency Telephone Number: Infotrac (800) 535-5053 (24 hours) - International (011) 352-323-3500

2 Hazards Identification

Classification of the substance or mixture



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R22: Harmful if swallowed.



F; Highly flammable

R11: Highly flammable.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of international guidelines.

Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

Label elements

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

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Hazard pictograms

GHS02

Signal word Danger**Hazard statements**

Highly flammable liquid and vapour.

Harmful to aquatic life with long lasting effects.

Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Wear protective gloves/protective clothing/eye protection/face protection.

Ground/bond container and receiving equipment.

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

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

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 2

Fire = 3

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 3

Reactivity = 0

Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

3 Composition

Chemical characterization: Mixtures**Description:** Mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 64-17-5 EINECS: 200-578-6	ethanol ⚠ Flam. Liq. 2, H225	<50%
CAS: 107-21-1 EINECS: 203-473-3	ethanediol ⚠ Acute Tox. 4, H302	<50%
CAS: 7646-85-7 EINECS: 231-592-0	zinc chloride ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	<1%

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4 First Aid Measures

Description of first aid measures**General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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

After skin contact: Generally the product does not irritate the skin.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: Immediately call a doctor.

Information for doctor:

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

5 Firefighting Measures

Extinguishing media

Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water

Special hazards arising from the substance or mixture: No further relevant information available.

Advice for firefighters

Protective equipment: No special measures required.

6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Keep unprotected persons away.

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and Storage

Handling:**Precautions for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Conditions for safe storage, including any incompatibilities**Storage:****Requirements to be met by storerooms and receptacles:** Store in a cool location.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Specific end use(s): No further relevant information available.

8 Exposure Controls/Personal Protection

Additional information about design of technical systems: No further data; see item 7.**Control parameters****Components with limit values that require monitoring at the workplace:****64-17-5 ethanol**PEL 1900 mg/m³, 1000 ppmREL 1900 mg/m³, 1000 ppmTLV Short-term value: 1880 mg/m³, 1000 ppm**107-21-1 ethanediol**TLV Short-term value: C 100 mg/m³

H

7646-85-7 zinc chloridePEL 1 mg/m³

Fume

REL Short-term value: 2 mg/m³Long-term value: 1 mg/m³TLV Short-term value: 2 mg/m³Long-term value: 1 mg/m³

fume

Additional information: The lists that were valid during the creation were used as basis.**Exposure controls:****Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

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.

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

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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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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: Tightly sealed goggles

9 Physical and Chemical Properties

Information on basic physical and chemical properties	
General Information	
Appearance	
Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	78°C (172 °F)
Flash point:	13°C (55 °F)
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	410°C (770 °F)
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
Explosion limits:	
Lower:	3.2 Vol %
Upper:	53.0 Vol %
Vapor pressure at 20°C (68 °F):	59 hPa (44 mm Hg)
Density:	Not determined.
Relative density:	Not determined.
Vapour density:	Not determined.
Evaporation rate:	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Segregation coefficient (n-octanol/water):	
Dynamic:	Not determined.
Kinematic:	Not determined.

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Other information:	No further relevant information available.
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10 Stability and Reactivity

Reactivity:**Chemical stability:****Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**Possibility of hazardous reactions:** No dangerous reactions known.**Conditions to avoid:** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicology Information

Information on toxicological effects**Acute toxicity:****LD/LC50 values that are relevant for classification:****107-21-1 ethanediol**

Oral	LD50	5840 mg/kg (rat)
Dermal	LD50	9530 mg/kg (rabbit)

7646-85-7 zinc chloride

Oral	LD50	350 mg/kg (rat)
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Primary irritant effect:**On the skin:** No irritant effect.**On the eye:** No irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful

Carcinogenic categories**IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

12 Ecological Information

Toxicity:**Aquatic toxicity:** No further relevant information available.**Persistence and degradability:** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential:** No further relevant information available.**Mobility in soil:** No further relevant information available.

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Ecotoxicological effects:**Remark:** Harmful to fish**Additional ecological information:****General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.



Harmful to aquatic organisms

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects:** No further relevant information available.

13 Disposal Considerations

Uncleaned packagings:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport Information

UN-Number	UN1170
DOT, ADR, IMDG, IATA	
UN proper shipping name	ETHANOL SOLUTION
DOT, IATA	1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
ADR	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
IMDG	
Transport hazard class(es)	
DOT	
	
Class	3 Flammable liquids.
Label	3
ADR, IMDG, IATA	
	
Class	3 Flammable liquids
Label	3
Packing group	II
DOT, ADR, IMDG, IATA	

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Environmental hazards	
Marine pollutant:	No
Special precautions for user:	Warning: Flammable liquids
Danger code (Kemler):	33
EMS Number:	F-E, <u>S-E</u>
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.
UN "Model Regulation":	UN1170, ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II

15 Regulatory Information

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

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

107-21-1 ethanediol

7646-85-7 zinc chloride

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

64-17-5 ethanol

Carcinogenic categories

EPA (Environmental Protection Agency)

7646-85-7 zinc chloride

II

TLV (Threshold Limit Value established by ACGIH)

64-17-5 ethanol

A3

107-21-1 ethanediol

A4

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

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Hazard pictograms



GHS02

Signal word Danger**Hazard statements**

Highly flammable liquid and vapour.

Harmful to aquatic life with long lasting effects.

Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Wear protective gloves/protective clothing/eye protection/face protection.

Ground/bond container and receiving equipment.

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

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

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Department issuing SDS: Regulatory Department**Contact:** Phone (800) 860-4073**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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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