



SAFETY DATA SHEET
In Accordance with ISO/DIS 11014

Review Date 03/20/2017

Revision Date 03/20/2017

1 Identification of the Substance/Mixture and Company

Product Name: Zenker's Fixative with Zinc Chloride

SDS Code: SSFXZENZ

Product Description: Tissue Fixative

Manufacturer/Supplier:

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

European Authorized Representative:

Emergo Europe
Prinsessegracht 20
2514 AP 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



GHS08 Health hazard

- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Muta. 1B H340 May cause genetic defects.
- Carc. 1A H350 May cause cancer.
- Repr. 1 H360 May damage fertility or the unborn child.
- STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS09 Environment

- Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2A H319 Causes serious eye irritation.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- Aquatic Acute 2 H401 Toxic to aquatic life.

Label elements

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

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Hazard pictograms

GHS08 GHS09

Signal word Danger**Hazard-determining components of labeling:**

potassium dichromate

Hazard statements

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

Toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

Precautionary statements

Do not breathe dust/fume/gas/mist/vapors/spray.

[In case of inadequate ventilation] wear respiratory protection.

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

Avoid release to the environment.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Wash contaminated clothing before reuse.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

IF exposed or concerned: Get medical advice/attention.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

IF ON SKIN: Wash with plenty of water.

Collect spillage.

Take off contaminated clothing and wash it before reuse.

Store locked up.

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

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

Health = 2

Fire = 0

Reactivity = 0

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HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 0

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:**

7778-50-9	potassium dichromate	<3%
7646-85-7	zinc chloride	<1%

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 and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.**After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.**After swallowing:** If symptoms persist consult 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:** Use fire fighting measures that suit the environment.**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: Not required.**Environmental precautions:**

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

Dilute with plenty of water.

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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.

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.

Protective Action Criteria for Chemicals

PAC-1:		
7778-50-9	potassium dichromate	0.42 mg/m ³
7757-82-6	sodium sulphate	9.8 mg/m ³
7646-85-7	zinc chloride	2 mg/m ³
PAC-2:		
7778-50-9	potassium dichromate	8.8 mg/m ³
7757-82-6	sodium sulphate	110 mg/m ³
7646-85-7	zinc chloride	800 mg/m ³
PAC-3:		
7778-50-9	potassium dichromate	44 mg/m ³
7757-82-6	sodium sulphate	650 mg/m ³
7646-85-7	zinc chloride	4,800 mg/m ³

7 Handling and Storage

Handling:**Precautions for safe handling:** Ensure good ventilation/exhaustion at the workplace.**Information about protection against explosions and fires:** No special measures required.**Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** Keep receptacle tightly sealed.**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:****7778-50-9 potassium dichromate**

PEL	Long-term value: 0.005* mg/m ³ Ceiling limit value: 0.1** mg/m ³ *as Cr(VI) **as CrO ₃ ; see 29 CFR 1910.1026
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REL	Long-term value: 0.0002 mg/m ³ as Cr; See Pocket Guide Apps. A and C
TLV	Long-term value: 0.05 mg/m ³ as Cr; BEI
7646-85-7 zinc chloride	
PEL	Long-term value: 1 mg/m ³ Fume
REL	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³
TLV	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³ fume
Ingredients with biological limit values:	
7778-50-9 potassium dichromate	
BEI	25 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Total chromium (fume)
	10 µg/L Medium: urine Time: increase during shift Parameter: Total chromium (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.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

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:

Protective gloves

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

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.

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Product Name: Zenker's Fixative with Zinc Chloride

Eye protection: Tightly sealed goggles

9 Physical and Chemical Properties

Information on basic physical and chemical properties	
General Information	
Appearance	
Form:	Liquid
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure at 20 °C (68 °F):	23 hPa (17 mm Hg)
Density at 20 °C (68 °F):	0 g/cm ³ (0 lbs/gal)
Relative density:	Not determined.
Vapour density:	Not determined.
Evaporation rate:	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water): Not determined.	
Dynamic at 20 °C (68 °F): 0 mPas	
Kinematic: Not determined.	
Other information: No further relevant information available.	

10 Stability and Reactivity

Reactivity: No further relevant information available.

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.

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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:
7778-50-9 potassium dichromate

Oral	LD50	190 mg/kg (mouse)
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7646-85-7 zinc chloride

Oral	LD50	350 mg/kg (rat)
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Primary irritant effect:
On the skin: Irritant to skin and mucous membranes.

On the eye: Irritating effect.

Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

Additional toxicological information:

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

Harmful

Irritant

The product can cause inheritable damage.

Carcinogenic categories
IARC (International Agency for Research on Cancer)

7778-50-9	potassium dichromate	1
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NTP (National Toxicology Program)

7778-50-9	potassium dichromate	K
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OSHA-Ca (Occupational Safety & Health Administration)

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.

Ecotoxicological effects:
Remark: Toxic for fish

Additional ecological information:
General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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

Also poisonous for fish and plankton in water bodies.

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Toxic for 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	UN1840
DOT, ADR, IMDG, IATA	
UN proper shipping name	Zinc chloride, solution mixture
DOT	1840 Zinc chloride, solution mixture, ENVIRONMENTALLY HAZARDOUS
ADR	ZINC CHLORIDE SOLUTION mixture, MARINE POLLUTANT
IMDG	ZINC CHLORIDE SOLUTION mixture
IATA	ZINC CHLORIDE SOLUTION mixture
Transport hazard class(es)	
DOT	
	
Class	8 Corrosive substances
Label	8
ADR, IMDG	
 	
Class	8 Corrosive substances
Label	8
IATA	
	
Class	8 Corrosive substances
Label	8

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Product Name: Zenker's Fixative with Zinc Chloride

Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards	Product contains environmentally hazardous substances: potassium dichromate
Marine pollutant:	Yes
Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
Special precautions for user: Danger code (Kemler): EMS Number: Segregation groups	Warning: Corrosive substances 80 F-A,S-B Acids, heavy metals and their salts (including their organometallic compounds)
Stowage Category	A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.
Transport/Additional information:	
DOT Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
ADR Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
IMDG Limited quantities (LQ) Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
UN "Model Regulation":	UN 1840 ZINC CHLORIDE, SOLUTION MIXTURE, ENVIRONMENTALLY HAZARDOUS, 8, III, ENVIRONMENTALLY HAZARDOUS

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):

7778-50-9 | potassium dichromate

7646-85-7 | zinc chloride

TSCA (Toxic Substances Control Act):

All ingredients are listed.

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Proposition 65**Chemicals known to cause cancer:**

7778-50-9 | potassium dichromate

Chemicals known to cause reproductive toxicity for females:

7778-50-9 | potassium dichromate

Chemicals known to cause reproductive toxicity for males:

7778-50-9 | potassium dichromate

Chemicals known to cause developmental toxicity:

7778-50-9 | potassium dichromate

Carcinogenic categories**EPA (Environmental Protection Agency)**

7778-50-9 | potassium dichromate

A(inh), D(oral), K/L(inh), CBD(oral)

7646-85-7 | zinc chloride

D, I, II

TLV (Threshold Limit Value established by ACGIH)

7778-50-9 | potassium dichromate

A1

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

7778-50-9 | potassium dichromate

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

GHS08 GHS09

Signal word Danger**Hazard-determining components of labeling:**

potassium dichromate

Hazard statements

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

Toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

Precautionary statements

Do not breathe dust/fume/gas/mist/vapors/spray.

[In case of inadequate ventilation] wear respiratory protection.

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

Avoid release to the environment.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

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Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Wash contaminated clothing before reuse.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

IF exposed or concerned: Get medical advice/attention.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

IF ON SKIN: Wash with plenty of water.

Collect spillage.

Take off contaminated clothing and wash it before reuse.

Store locked up.

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

National regulations:

Additional classification according to Decree on Hazardous Materials:

Carcinogenic hazardous material group III (dangerous).

Information about limitation of use:

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

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

Date of preparation / last revision 03/20/2017 / -

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

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 1B: Germ cell mutagenicity – Category 1B

Carc. 1A: Carcinogenicity – Category 1A

Repr. 1: Reproductive toxicity – Category 1

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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