

07/26/2019

Kit Components

Product code	Description
SSKTSTE	Steiner Stain Kit

Components:

SSAHO12	Oxidizer Solution
SSAHS08	0.1% Silver Nitrate
SSAHS05	1% Silver Nitrate
SSAHG03	2.5% Gum Mastic
SSFZFO	10% Zinc Formalin
SSAHH03	Hydroquinone



SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 01/22/2018

Revision Date 01/22/2018

1 Identification of the Substance/Mixture and Company

Product Name: Oxidizer Solution

SDS Code: SSAHO12

Product Description: Kit Component

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



GHS02 Flame

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



GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1A H350 May cause cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

STOT SE 3 H335 May cause respiratory irritation.

Label elements

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

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Product Name: Oxidizer Solution

Hazard pictograms

GHS02 GHS05 GHS07 GHS08

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

ethanol

phenol

hydrogen chloride

formic acid

Hazard statements

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes severe skin burns and eye damage.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

If swallowed: Call a poison center/doctor if you feel unwell.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

If exposed or concerned: Get medical advice/attention.

Immediately call a poison center/doctor.

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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Product Name: Oxidizer Solution

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

Health = 3

Fire = 3

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *3

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:**

64-17-5	ethanol	50-100%
7647-01-0	hydrogen chloride	<20%
108-95-2	phenol	<20%
64-18-6	formic acid	<20%

4 First Aid Measures

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

Immediately remove any clothing soiled by the product.

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

After inhalation: 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. Then consult a doctor.**After swallowing:**

Immediately call a doctor.

Drink copious amounts of water and provide fresh air. 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture:** No further relevant information available.

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Product Name: Oxidizer Solution
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:

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).

Use neutralizing agent.

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:

64-17-5	ethanol	1,800 ppm
7647-01-0	hydrogen chloride	1.8 ppm
108-95-2	phenol	15 ppm
64-18-6	formic acid	3 ppm

PAC-2:

64-17-5	ethanol	3300* ppm
7647-01-0	hydrogen chloride	22 ppm
108-95-2	phenol	23 ppm
64-18-6	formic acid	25 ppm

PAC-3:

64-17-5	ethanol	15000* ppm
7647-01-0	hydrogen chloride	100 ppm
108-95-2	phenol	200 ppm
64-18-6	formic acid	250 ppm

7 Handling and Storage

Handling:
Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace.

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.

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Product Name: Oxidizer Solution
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 Long-term value: 1900 mg/m³, 1000 ppm

 REL Long-term value: 1900 mg/m³, 1000 ppm

 TLV Short-term value: 1880 mg/m³, 1000 ppm

7647-01-0 hydrogen chloride

 PEL Ceiling limit value: 7 mg/m³, 5 ppm

 REL Ceiling limit value: 7 mg/m³, 5 ppm

 TLV Ceiling limit value: 2.98 mg/m³, 2 ppm

108-95-2 phenol

 PEL Long-term value: 19 mg/m³, 5 ppm
Skin

 REL Long-term value: 19 mg/m³, 5 ppm
Ceiling limit value: 60* mg/m³, 15.6* ppm
*15-min; Skin

 TLV Long-term value: 19 mg/m³, 5 ppm
Skin; BEI

64-18-6 formic acid

 PEL Long-term value: 9 mg/m³, 5 ppm

 REL Long-term value: 9 mg/m³, 5 ppm

 TLV Short-term value: 19 mg/m³, 10 ppm
Long-term value: 9.4 mg/m³, 5 ppm

Ingredients with biological limit values:
108-95-2 phenol

 BEI 250 mg/g creatinine
Medium: urine
Time: end of shift
Parameter: Phenol with hydrolysis (background, nonspecific)

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.

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Product Name: Oxidizer Solution

Store protective clothing separately.
 Avoid contact with the eyes.
 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.

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:	Phenol-like
Odor threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	78 °C (172.4 °F)

Flash point: 13 °C (55.4 °F)

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 425 °C (797 °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:	1.3 Vol %
Upper:	33 Vol %

Vapor pressure at 20 °C (68 °F): 59 hPa (44.3 mm Hg)

Density: Not determined.

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Product Name: Oxidizer Solution

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:	Not determined.
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.

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:		
108-95-2 phenol		
Oral	LD50	317 mg/kg (rat)
Dermal	LD50	850 mg/kg (rabbit)
64-18-6 formic acid		
Oral	LD50	1,100 mg/kg (rat)

Primary irritant effect:
On the skin: Caustic effect on skin and mucous membranes.

On the eye:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

Sensitization: No sensitizing effects known.

Additional toxicological information:

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

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic categories

IARC (International Agency for Research on Cancer)		
64-17-5	ethanol	1

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Product Name: Oxidizer Solution

7647-01-0	hydrogen chloride	3
108-95-2	phenol	3

NTP (National Toxicology Program)

None of the ingredients are listed.

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.**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.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

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

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 DOT, ADR, IMDG, IATA	UN2924
UN proper shipping name DOT ADR IMDG IATA	Flammable liquids, corrosive, n.o.s. (Ethanol, Hydrochloric acid) 2924 Flammable liquids, corrosive, n.o.s. (Ethanol, Hydrochloric acid) FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), HYDROCHLORIC ACID) FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL, HYDROCHLORIC ACID)

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Product Name: Oxidizer Solution

Transport hazard class(es)	
DOT	
 	
Class Label	3 Flammable liquids 3, 8
ADR	
 	
Class Label	3 Flammable liquids 3+8
IMDG	
 	
Class Label	3 Flammable liquids 3/8
IATA	
 	
Class Label	3 Flammable liquids 3 (8)
Packing group	
DOT, ADR, IMDG, IATA	II
Environmental hazards	
Marine pollutant:	No
Special precautions for user:	Warning: Flammable liquids
Danger code (Kemler):	338
EMS Number:	F-E,S-C
Segregation groups	Acids
Stowage Category	B
Stowage Code	SW2 Clear of living quarters.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.

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Product Name: Oxidizer Solution

Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 5 L
ADR	
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
IMDG	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN 2924 FLAMMABLE LIQUIDS, CORROSIVE, N.O.S. (ETHANOL, HYDROCHLORIC ACID), 3 (8), II

15 Regulatory Information

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

Section 355 (extremely hazardous substances):

7647-01-0	hydrogen chloride
108-95-2	phenol

Section 313 (Specific toxic chemical listings):

7647-01-0	hydrogen chloride
108-95-2	phenol
64-18-6	formic acid

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
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Carcinogenic categories

EPA (Environmental Protection Agency)

108-95-2	phenol	D, I
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Product Name: Oxidizer Solution

TLV (Threshold Limit Value established by ACGIH)		
64-17-5	ethanol	A3
7647-01-0	hydrogen chloride	A4
108-95-2	phenol	A4
NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients are listed.		

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

Hazard pictograms



GHS02 GHS05 GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:

ethanol
phenol
hydrogen chloride
formic acid

Hazard statements

Highly flammable liquid and vapor.
Harmful if swallowed.
Causes severe skin burns and eye damage.
Suspected of causing genetic defects.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dusts or mists.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Immediately call a poison center/doctor.
Get medical advice/attention if you feel unwell.

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Product Name: Oxidizer Solution

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

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 01/22/2018 / -

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)

HMIS: 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

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

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1A: Carcinogenicity – Category 1A

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Product Name: Oxidizer Solution

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 01/22/2018

Revision Date 01/22/2018

1 Identification of the Substance/Mixture and Company

Product Name: 0.1% Silver Nitrate

SDS Code: SSAHS08

Product Description: Kit Component

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

The product is not classified according to the Globally Harmonized System (GHS).

Label elements

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

Classification system:

NFPA ratings (scale 0 - 4)

Health = 1

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 1

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: Not applicable

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Product Name: 0.1% Silver Nitrate

4 First Aid Measures

Description of first aid measures
General information: No special measures required.

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: 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:

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).

Reference to other sections

No dangerous substances are released.

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:

7761-88-8	silver nitrate	0.047 mg/m ³
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PAC-2:

7761-88-8	silver nitrate	0.9 mg/m ³
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PAC-3:

7761-88-8	silver nitrate	5.4 mg/m ³
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7 Handling and Storage

Handling:
Precautions for safe handling: No special measures required.

Information about protection against explosions and fires: No special measures required.

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Product Name: 0.1% Silver Nitrate

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:** None.**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:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.**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

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: Goggles recommended during refilling.

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.
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Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)

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Product Name: 0.1% Silver Nitrate

Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
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 (17.3 mm Hg)
Density:	Not determined.
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:	Not determined.
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.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicology Information

Information on toxicological effects

Acute toxicity:

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 is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 01/22/2018

Revision Date 01/22/2018

Product Name: 0.1% Silver Nitrate

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.

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.**Additional ecological information:****General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

13 Disposal Considerations

Waste treatment methods:**Recommendation:**

Smaller quantities can be disposed of with household waste.

Disposal must be according to official regulations.

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**DOT, ADR, ADN, IMDG, IATA**

Not applicable

UN proper shipping name**DOT, ADR, ADN, IMDG, IATA**

Not applicable

Transport hazard class(es)**DOT, ADR, ADN, IMDG, IATA****Class**

Not applicable

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 01/22/2018

Revision Date 01/22/2018

Product Name: 0.1% Silver Nitrate

Packing group DOT, ADR, IMDG, IATA	Not applicable
Environmental hazards Marine pollutant:	No
Special precautions for user:	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.
UN "Model Regulation":	Not applicable

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):

7761-88-8 | silver nitrate

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:

None of the ingredients are listed.

Carcinogenic categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

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

None of the ingredients are listed.

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

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

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 01/22/2018

Revision Date 01/22/2018

Product Name: 0.1% Silver Nitrate

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** 01/22/2018 / -**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)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/22/2018

1 Identification of the Substance/Mixture and Company

Product Name: 1% Silver Nitrate

SDS Code: SSAHS05

Product Description: Laboratory Reagent

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



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Aquatic Acute 3 H402 Harmful to aquatic life.

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

Label elements

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

Hazard pictograms



GHS07

Signal word Warning

Hazard statements

Causes skin irritation.

Causes serious eye irritation.

Harmful to aquatic life.

Harmful to aquatic life with long lasting effects.

Precautionary statements

Wash thoroughly after handling.

Avoid release to the environment.

Wear protective gloves / eye protection / face protection.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/22/2018

Product Name: 1% Silver Nitrate

If on skin: Wash with plenty of water.

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 skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

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

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

Health = 1

Fire = 0

Reactivity = 0

HMS-ratings (scale 0 - 4)

Health = 1

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:**

7761-88-8 silver nitrate

≥1-≤2.5%

4 First Aid Measures

Description of first aid measures**General information:** Immediately remove any clothing soiled by the product.**After inhalation:** 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.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/22/2018

Product Name: 1% Silver Nitrate

Advice for firefighters**Protective equipment:** No special measures required.

6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Not required.**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.

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:**

7761-88-8 silver nitrate

0.047 mg/m³**PAC-2:**

7761-88-8 silver nitrate

0.9 mg/m³**PAC-3:**

7761-88-8 silver nitrate

5.4 mg/m³

7 Handling and Storage

Handling:**Precautions for safe handling:** No special precautions are necessary if used correctly.**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:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/22/2018

Product Name: 1% Silver Nitrate

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.

Avoid contact with the eyes and skin.

Breathing equipment: Not required.**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.

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.
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Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)

Flash point:	Not applicable.
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Flammability (solid, gaseous):	Not applicable.
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Decomposition temperature:	Not determined.
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Auto igniting:	Product is not selfigniting.
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Danger of explosion:	Product does not present an explosion hazard.
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Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
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Density:	Not determined.
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SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/22/2018

Product Name: 1% Silver Nitrate

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:	Not determined.
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.**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:****7761-88-8 silver nitrate**

Oral LD50 50 mg/kg (mouse)

Primary irritant effect:**On the skin:** Irritant to skin and mucous membranes.**On the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

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

Irritant

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.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/22/2018

Product Name: 1% Silver Nitrate

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:** 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 DOT, ADR, ADN, IMDG, IATA	Not applicable
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Not applicable
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not applicable
Packing group DOT, ADR, IMDG, IATA	Not applicable
Environmental hazards Marine pollutant:	No
Special precautions for user:	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/22/2018

Product Name: 1% Silver Nitrate
UN "Model Regulation":

Not applicable

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):

7761-88-8 | silver nitrate

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:

None of the ingredients are listed.

Carcinogenic categories
EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

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

None of the ingredients are listed.

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

Hazard pictograms


GHS07

Signal word Warning

Hazard statements

Causes skin irritation.

Causes serious eye irritation.

Harmful to aquatic life.

Harmful to aquatic life with long lasting effects.

Precautionary statements

Wash thoroughly after handling.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/22/2018

Product Name: 1% Silver Nitrate

Avoid release to the environment.

Wear protective gloves / eye protection / face protection.

If on skin: Wash with plenty of water.

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 skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

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

Date of preparation / last revision 02/14/2018 / -

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)

HMIS: 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

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

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

Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

1 Identification of the Substance/Mixture and Company

Product Name: 2.5% Gum Mastic

SDS Code: SSAHG03

Product Description: Laboratory Reagent

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



GHS02 Flame

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



GHS08 Health hazard

Carc. 1A H350 May cause cancer.

Label elements

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

Hazard pictograms



GHS02 GHS08

Signal word Danger

Hazard-determining components of labeling:

ethanol

Hazard statements

Highly flammable liquid and vapor.

May cause cancer.

Precautionary statements

Obtain special instructions before use.

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

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

Product Name: 2.5% Gum Mastic

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Keep container tightly closed.
 Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 If exposed or concerned: Get medical advice/attention.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Health = 1

Fire = 3

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 1

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:**

64-17-5	ethanol	50-100%
61789-92-2	Gum Mastic	≥0.1-≤2.5%

4 First Aid Measures

Description of first aid measures**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:** 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.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

Product Name: 2.5% Gum Mastic

5 Firefighting Measures

Extinguishing media**Suitable extinguishing agents:**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**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:

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.

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:**

64-17-5	ethanol	1,800 ppm
61789-92-2	Gum Mastic	20 mg/m ³

PAC-2:

64-17-5	ethanol	3300* ppm
61789-92-2	Gum Mastic	220 mg/m ³

PAC-3:

64-17-5	ethanol	15000* ppm
61789-92-2	Gum Mastic	1,300 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:**

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.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

Product Name: 2.5% Gum Mastic

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:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

64-17-5 ethanolPEL Long-term value: 1900 mg/m³, 1000 ppmREL Long-term value: 1900 mg/m³, 1000 ppmTLV Short-term value: 1880 mg/m³, 1000 ppm**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.

Store protective clothing separately.

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.

Eye protection: Tightly sealed goggles

9 Physical and Chemical Properties

Information on basic physical and chemical properties**General Information****Appearance****Form:** Liquid**Color:** Yellow**Odor:** Alcohol-like

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

Product Name: 2.5% Gum Mastic

Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition Melting point/Melting range: Boiling point/Boiling range:	-114.5 °C (-174.1 °F) 78 °C (172.4 °F)
Flash point:	13 °C (55.4 °F)
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	425 °C (797 °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: Upper:	3.5 Vol % 15 Vol %
Vapor pressure at 20 °C (68 °F):	59 hPa (44.3 mm Hg)
Density at 20 °C (68 °F): Relative density: Vapour density: Evaporation rate:	0.79 g/cm ³ (6.59255 lbs/gal) Not determined. Not determined. Not determined.
Solubility in / Miscibility with Water at 20 °C (68 °F):	1,000 g/l
Partition coefficient (n-octanol/water): Dynamic: Kinematic: Other information:	Not determined. Not determined. Not determined. 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.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicology Information

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

On the skin: No irritant effect.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

Product Name: 2.5% Gum Mastic

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:

Carcinogenic categories

IARC (International Agency for Research on Cancer)		
64-17-5	ethanol	1
NTP (National Toxicology Program)		
None of the ingredients are listed.		
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.**Additional ecological information:****General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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	
DOT, ADR, IMDG, IATA	UN1170
UN proper shipping name	
DOT	Ethanol mixture
ADR	1170 Ethanol mixture
IMDG	ETHANOL (ETHYL ALCOHOL) mixture
IATA	ETHANOL mixture

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

Product Name: 2.5% Gum Mastic

Transport hazard class(es)	
DOT	
	
Class	3 Flammable liquids
Label	3
ADR, IMDG, IATA	
	
Class	3 Flammable liquids
Label	3
Packing group	
DOT, ADR, IMDG, IATA	II
Environmental hazards	
Marine pollutant:	No
Special precautions for user:	Warning: Flammable liquids
Danger code (Kemler):	33
EMS Number:	F-E,S-D
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: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
IMDG	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN 1170 ETHANOL MIXTURE, 3, II

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In Accordance with ISO/DIS 11014

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Product Name: 2.5% Gum Mastic

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):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

TSCA new (21st Century Act) (Substances not listed)

61789-92-2 Gum Mastic

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)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

64-17-5 ethanol

A3

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

None of the ingredients are listed.

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

Hazard pictograms


GHS02 GHS08

Signal word Danger

Hazard-determining components of labeling:

ethanol

Hazard statements

Highly flammable liquid and vapor.

May cause cancer.

Precautionary statements

Obtain special instructions before use.

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

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Product Name: 2.5% Gum Mastic

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Keep container tightly closed.
 Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 If exposed or concerned: Get medical advice/attention.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep cool.
 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 02/14/2018 / -

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)
 HMIS: Hazardous Materials Identification System (USA)
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Flam. Liq. 2: Flammable liquids – Category 2

SAFETY DATA SHEET
In Accordance with ISO/DIS 11014

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Revision Date 01/19/2018

Product Name: 2.5% Gum Mastic

Carc. 1A: Carcinogenicity – Category 1A

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— US —



SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/30/2018

1 Identification of the Substance/Mixture and Company

Product Name: 10% Zinc Formalin

SDS Code: SSFXZFO

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

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1A H350 May cause cancer.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

Label elements

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

Hazard pictograms



GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:

formaldehyde

Hazard statements

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/30/2018

Product Name: 10% Zinc Formalin**Precautionary statements**

Obtain special instructions before use.

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

Avoid breathing dust/fume/gas/mist/vapors/spray

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

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

If on skin: Wash with plenty of water.

If exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

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

Wash contaminated clothing before reuse.

Store locked up.

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

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

Health = 3

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 3

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:		
107-21-1	ethanediol	2.5-10%
50-00-0	formaldehyde	≥2.5-≤5%
67-56-1	methanol	≥0.1-≤2.5%
7646-85-7	zinc chloride	<1%

4 First Aid Measures

Description of first aid measures**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.**After swallowing:** If symptoms persist consult doctor.**Information for doctor:****Most important symptoms and effects, both acute and delayed:** No further relevant information available.

SAFETY DATA SHEET

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Product Name: 10% Zinc Formalin

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:**

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.

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:**

107-21-1	ethanediol	30 ppm
50-00-0	formaldehyde	0.90 ppm
67-56-1	methanol	530 ppm
127-09-3	sodium acetate	11 mg/m ³
7646-85-7	zinc chloride	2 mg/m ³
64-19-7	acetic acid	5 ppm

PAC-2:

107-21-1	ethanediol	150 ppm
50-00-0	formaldehyde	14 ppm
67-56-1	methanol	2,100 ppm
127-09-3	sodium acetate	120 mg/m ³
7646-85-7	zinc chloride	800 mg/m ³
64-19-7	acetic acid	35 ppm

PAC-3:

107-21-1	ethanediol	900 ppm
50-00-0	formaldehyde	56 ppm
67-56-1	methanol	7200* ppm
127-09-3	sodium acetate	700 mg/m ³

SAFETY DATA SHEET

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Product Name: 10% Zinc Formalin

7646-85-7	zinc chloride	4,800 mg/m ³
64-19-7	acetic acid	250 ppm

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:** None.**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:****107-21-1 ethanediol**

TLV Short-term value: 10** mg/m³, 50* ppm
 Long-term value: 25* ppm
 *vapor fraction:**inh. fraction, aerosol only

50-00-0 formaldehyde

PEL Short-term value: 2 ppm
 Long-term value: 0.75 ppm
 see 29 CFR 1910.1048(c)
 REL Long-term value: 0.016 ppm
 Ceiling limit value: 0.1* ppm
 *15-min; See Pocket Guide App. A
 TLV Short-term value: 0.37 mg/m³, 0.3 ppm
 Long-term value: 0.12 mg/m³, 0.1 ppm
 DSEN; RSEN

67-56-1 methanol

PEL Long-term value: 260 mg/m³, 200 ppm
 REL Short-term value: 325 mg/m³, 250 ppm
 Long-term value: 260 mg/m³, 200 ppm
 Skin
 TLV Short-term value: 328 mg/m³, 250 ppm
 Long-term value: 262 mg/m³, 200 ppm
 Skin; BEI

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

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Product Name: 10% Zinc Formalin

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:	
67-56-1 methanol	
BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)

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.

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.

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:	Pungent, makes eyes water
Odor threshold:	Not determined.

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In Accordance with ISO/DIS 11014

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Revision Date 01/30/2018

Product Name: 10% Zinc Formalin

pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	111 °C (231.8 °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 does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
Density:	Not determined.
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:	Not determined.
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.

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:

50-00-0 formaldehyde

Oral	LD50	>200 mg/kg (rat)
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In Accordance with ISO/DIS 11014

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Product Name: 10% Zinc Formalin

67-56-1 methanol		
Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)
7646-85-7 zinc chloride		
Oral	LD50	350 mg/kg (rat)

Primary irritant effect:**On the skin:** No irritant effect.**On the eye:** No irritating effect.**Sensitization:** Sensitization possible through skin contact.**Additional toxicological information:**

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

Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)		
50-00-0	formaldehyde	1
NTP (National Toxicology Program)		
50-00-0	formaldehyde	K
OSHA-Ca (Occupational Safety & Health Administration)		
50-00-0	formaldehyde	

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.**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.

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.

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Review Date 02/14/2018

Revision Date 01/30/2018

Product Name: 10% Zinc Formalin

14 Transport Information

UN-Number DOT, ADR, ADN, IMDG, IATA	Not applicable
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Not applicable
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not applicable
Packing group DOT, ADR, IMDG, IATA	Not applicable
Environmental hazards Marine pollutant:	No
Special precautions for user:	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.
UN "Model Regulation":	Not applicable

15 Regulatory Information

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

Section 355 (extremely hazardous substances):	
50-00-0	formaldehyde
Section 313 (Specific toxic chemical listings):	
107-21-1	ethanediol
50-00-0	formaldehyde
67-56-1	methanol
7646-85-7	zinc chloride
TSCA (Toxic Substances Control Act):	
All ingredients are listed.	
Proposition 65	
Chemicals known to cause cancer:	
50-00-0	formaldehyde
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:	
107-21-1	ethanediol
67-56-1	methanol

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/30/2018

Product Name: 10% Zinc Formalin
Carcinogenic categories

EPA (Environmental Protection Agency)		
50-00-0	formaldehyde	B1
7646-85-7	zinc chloride	D, I, II
TLV (Threshold Limit Value established by ACGIH)		
107-21-1	ethanediol	A4
50-00-0	formaldehyde	A2
NIOSH-Ca (National Institute for Occupational Safety and Health)		
50-00-0	formaldehyde	

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

Hazard pictograms


GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:

formaldehyde

Hazard statements

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

Precautionary statements

Obtain special instructions before use.

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

Avoid breathing dust/fume/gas/mist/vapors/spray

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

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

If on skin: Wash with plenty of water.

If exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

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

Wash contaminated clothing 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

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/30/2018

Product Name: 10% Zinc Formalin

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** 02/14/2018 / -**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)

HMIS: 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

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 Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1A: Carcinogenicity – Category 1A

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SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

1 Identification of the Substance/Mixture and Company

Product Name: Hydroquinone

SDS Code: SSAHH03

CAS Number:

123-31-9

123-31-9

EC number:

204-617-8

Index number:

604-005-00-4

Product Description: Laboratory Reagent

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

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 2 H351 Suspected of causing cancer.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

Product Name: Hydroquinone

 Skin Sens. 1 H317 May cause an allergic skin reaction.

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

GHS05 GHS07 GHS08 GHS09

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

1,4-dihydroxybenzene

Hazard statements

Harmful if swallowed.

Causes serious eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

Suspected of causing cancer.

Very toxic to aquatic life.

Precautionary statements

Obtain special instructions before use.

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

Avoid breathing dust/fume/gas/mist/vapors/spray

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.

Avoid release to the environment.

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

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

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

If exposed or concerned: Get medical advice/attention.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Rinse mouth.

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

Wash contaminated clothing before reuse.

Collect spillage.

Store locked up.

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

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

Health = 3

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *3

Fire = 1

Reactivity = 0

SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 02/14/2018

Revision Date 01/19/2018

Product Name: Hydroquinone

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

3 Composition

Chemical characterization: Substances**CAS No. Description**

123-31-9 1,4-dihydroxybenzene

Identification number(s)**EC number:** 204-617-8**Index number:** 604-005-00-4

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. Then consult a doctor.

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: 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:

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.

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

Methods and material for containment and cleaning up:

Use neutralizing agent.

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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:	
	3 mg/m ³
PAC-2:	
	20 mg/m ³
PAC-3:	
	120 mg/m ³

7 Handling and Storage

Handling:
Precautions for safe handling:

Thorough dedusting.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Information about protection against explosions and fires: Keep respiratory protective device available.

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:	
123-31-9 1,4-dihydroxybenzene	
PEL	Long-term value: 2 mg/m ³
REL	Ceiling limit value: 2* mg/m ³ *15-min
TLV	Long-term value: 1 mg/m ³ DSEN

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.

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Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

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.

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:	Crystalline powder
Color:	White
Odor:	Weak, characteristic
Odor threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	172.3 °C (342.1 °F)
Boiling point/Boiling range:	285 °C (545 °F)

Flash point: 165 °C (329 °F)

Flammability (solid, gaseous): Product is not flammable.

Ignition temperature: 515 °C (959 °F)

Decomposition temperature: Not determined.

Auto igniting: Not determined.

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): 0.00015 hPa (0 mm Hg)

Density at 20 °C (68 °F): 1.328 g/cm³ (11.08216 lbs/gal)

Relative density: Not determined.

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Vapour density:	Not applicable.
Evaporation rate:	Not applicable.
Solubility in / Miscibility with Water at 20 °C (68 °F):	72 g/l
Partition coefficient (n-octanol/water):	Not determined.
Dynamic:	Not applicable.
Kinematic:	Not applicable.
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.

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:
123-31-9 1,4-dihydroxybenzene

Oral | LD50 | 320 mg/kg (rat)

Primary irritant effect:
On the skin: No irritant effect.

On the eye: Strong irritant with the danger of severe eye injury.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:
Carcinogenic categories
IARC (International Agency for Research on Cancer)

3

NTP (National Toxicology Program)

Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological Information

Toxicity:
Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

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Product Name: Hydroquinone
Behavior in environmental systems:
Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Ecotoxicological effects:
Remark: Very toxic for fish

Additional ecological information:
General notes:

Water hazard class 3 (Assessment by list): extremely hazardous for water

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

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

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

Very 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	UN3077
DOT, ADR, IMDG, IATA	
UN proper shipping name	Environmentally hazardous substances, solid, n.o.s. (1,4-dihydroxybenzene)
DOT	
ADR	3077 Environmentally hazardous substances, solid, n.o.s. (1,4-dihydroxybenzene)
IMDG, IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,4-dihydroxybenzene)
Transport hazard class(es)	
DOT, IMDG	
	
Class	9 Miscellaneous dangerous substances and articles

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ADR, IATA	
	
Class	9 Miscellaneous dangerous substances and articles
Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards	
Special marking (ADR):	Symbol (fish and tree)
Special marking (IATA):	Symbol (fish and tree)
Special precautions for user:	Warning: Miscellaneous dangerous substances and articles
EMS Number:	F-A,S-F
Stowage Category	A
Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.
Transport/Additional information:	
ADR Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (1,4-DIHYDROXYBENZENE), 9, III

15 Regulatory Information

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

Section 355 (extremely hazardous substances):

Substance is listed.

Section 313 (Specific toxic chemical listings):

Substance is listed.

TSCA (Toxic Substances Control Act):

Substance is listed.

Proposition 65
Chemicals known to cause cancer:

Substance is not listed.

Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

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Chemicals known to cause developmental toxicity:

Substance is not listed.

Carcinogenic categories
EPA (Environmental Protection Agency)

Substance is not listed.

TLV (Threshold Limit Value established by ACGIH)

A3

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

Substance is not listed.

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

Hazard pictograms


GHS05

GHS07

GHS08

GHS09

Signal word Danger

Hazard-determining components of labeling:

1,4-dihydroxybenzene

Hazard statements

Harmful if swallowed.

Causes serious eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

Suspected of causing cancer.

Very toxic to aquatic life.

Precautionary statements

Obtain special instructions before use.

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

Avoid breathing dust/fume/gas/mist/vapors/spray

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.

Avoid release to the environment.

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

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

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

If exposed or concerned: Get medical advice/attention.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Rinse mouth.

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

Wash contaminated clothing before reuse.

Collect spillage.

Store locked up.

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

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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** 02/14/2018 / -**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

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

NFPA: National Fire Protection Association (USA)

HMIS: 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

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 2: Carcinogenicity – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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