

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Dimethylglyoxime, 1% Alcoholic  
Product code : LC13600

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only.

#### 1.3. Details of the supplier of the safety data sheet

LabChem Inc  
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
Zelienople, PA 16063 - USA  
T 412-826-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Flam. Liq. 2 H225  
Acute Tox. 4 (Oral) H302  
Skin Irrit. 2 H315  
Eye Irrit. 2A H319  
Repr. 2 H361  
STOT SE 3 H335  
STOT SE 1 H370

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS02

GHS07

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapor  
H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation  
H361 - Suspected of damaging fertility or the unborn child (oral)  
H370 - Causes damage to organs (central nervous system, optic nerve, liver, kidneys)

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking  
P233 - Keep container tightly closed  
P240 - Ground/bond container and receiving equipment  
P241 - Use explosion-proof electrical, lighting, ventilating equipment  
P242 - Use only non-sparking tools  
P243 - Take precautionary measures against static discharge  
P260 - Do not breathe mist, vapors, spray  
P264 - Wash exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear eye protection, face protection, protective clothing, protective gloves  
P301+P312 - IF SWALLOWED: Call a poison center/doctor if you feel unwell

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P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P312 - Call a poison center/doctor if you feel unwell  
P235 - Keep cool  
P330 - If swallowed, rinse mouth  
P332+P313 - If skin irritation occurs: Get medical advice/attention  
P337+P313 - If eye irritation persists: Get medical advice/attention  
P362 - Take off contaminated clothing and wash before reuse  
P370+P378 - In case of fire: Use carbon dioxide, powder, alcohol-resistant foam to extinguish  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up  
P501 - Dispose of contents/container to comply with local, state and federal regulations

### 2.3. Other hazards

Other hazards not contributing to the classification : None.

### 2.4. Unknown acute toxicity (GHS-US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Ethanol	(CAS No) 64-17-5	89.1	Flam. Liq. 2, H225 Carc. 1A, H350 Repr. 2, H361
Isopropanol	(CAS No) 67-63-0	4.95	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H335
Methanol	(CAS No) 67-56-1	4.95	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
Dimethylglyoxime	(CAS No) 95-45-4	1	Comb. Dust, H232

Full text of H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink. Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician.

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion : Ingestion of large quantities: immediately to hospital. Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Suspected of damaging fertility or the unborn child. Causes damage to organs.

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Symptoms/injuries after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Respiratory difficulties. Central nervous system depression. Symptoms similar to those listed under ingestion. May cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Redness of the eye tissue. Lacrimation. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.
Symptoms/injuries after ingestion	: AFTER ABSORPTION OF HIGH QUANTITIES: Risk of aspiration pneumonia. Red skin. Body temperature rise. Damp/clammy skin. Excited/restless. Accelerated heart action. Central nervous system depression. Dizziness. Narcosis. Headache. Drunkenness. Nausea. Vomiting. Disturbed motor response. Coordination disorders. Visual disturbances. Impaired concentration. Delusions. Disturbed sensation of pain. Disturbances of heart rate. Disturbances of consciousness. Tremor. Cramps/uncontrolled muscular contractions. Dilated pupils. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Gastrointestinal complaints. Enlargement/affection of the liver. Change in the haemogramme/blood composition. Cardiac and blood circulation effects. High arterial pressure. Impairment of the nervous system. Behavioural disturbances. Mental confusion. Disturbed tactile sensibility. Tremor. Affection of the bone marrow. Affection of the endocrine system. Weakening of the immune system.

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

Obtain medical assistance.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Alcohol-resistant foam. BC powder. Carbon dioxide. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Solid water jet ineffective as extinguishing medium. Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD. Highly flammable. Gas/vapor flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Gas/vapor spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard". Highly flammable liquid and vapor.
Explosion hazard	: DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard". May form flammable/explosive vapor-air mixture.
Reactivity	: Upon combustion: CO and CO <sub>2</sub> are formed. Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

### 5.3. Advice for firefighters

Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.
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#### 6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Protective goggles. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus. See "Material-Handling" to select protective clothing.
Emergency procedures	: Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosion-proof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes. Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection. Avoid breathing mist, spray.
Emergency procedures	: If a major spill occurs, all personnel should be immediately evacuated and the area ventilated. Ventilate area.

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### 6.2. Environmental precautions

Prevent spreading in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.

Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Do not breathe mist, vapors, spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/... equipment.

Storage conditions : Keep cool. Keep in fireproof place. Keep container tightly closed.

Incompatible products : Strong oxidizers. Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. strong acids. water/moisture.

Storage area : Keep out of direct sunlight. Store in a dry area. Ventilation at floor level. Fireproof storeroom. Provide for an automatic sprinkler system. Provide for a tub to collect spills. Provide the tank with earthing. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: stainless steel. aluminium. iron. copper. nickel. synthetic material. glass.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Dimethylglyoxime, 1% Alcoholic		
ACGIH	Not applicable	
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
Ethanol (64-17-5)		
ACGIH	Not applicable	
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

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Isopropanol (67-63-0)		
ACGIH	ACGIH TWA (ppm)	200 ppm
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	400 ppm

Methanol (67-56-1)		
ACGIH	ACGIH TWA (ppm)	200 ppm
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	200 ppm

Dimethylglyoxime (95-45-4)		
ACGIH	Not applicable	
OSHA	Not applicable	

### 8.2. Exposure controls

Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.
Personal protective equipment	: Avoid all unnecessary exposure.
Materials for protective clothing	: GIVE EXCELLENT RESISTANCE: butyl rubber. viton. GIVE GOOD RESISTANCE: neoprene. tetrafluoroethylene. GIVE LESS RESISTANCE: nitrile rubber. polyethylene. GIVE POOR RESISTANCE: natural rubber. PVA. PVC.
Hand protection	: Gloves. Wear protective gloves.
Eye protection	: Safety glasses. Chemical goggles or safety glasses.
Skin and body protection	: Protective clothing. Wear suitable protective clothing.
Respiratory protection	: Wear gas mask with filter type A if conc. in air > exposure limit. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
Other information	: Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Colourless
Odor	: Alcohol odour;Pleasant odour
Odor threshold	: 100 ppm 188 mg/m <sup>3</sup>
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: 2.4
Relative evaporation rate (ether=1)	: 8.3
Melting point	: -115 °C
Freezing point	: No data available
Boiling point	: 78 °C
Flash point	: 13 °C
Critical temperature	: 243 °C
Auto-ignition temperature	: 363 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 59 hPa
Vapor pressure at 50 °C	: 300 hPa
Critical pressure	: 63840 hPa
Relative vapor density at 20 °C	: 1.6
Relative density	: 0.79
Relative density of saturated gas/air mixture	: 1.04
Specific gravity / density	: 790 kg/m <sup>3</sup>

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Solubility	: Soluble in ether. Soluble in acetone. Soluble in methanol.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.0012 Pa.s 20 °C
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: 3.3 - 19.0 vol % 67 - 290 g/m <sup>3</sup>

### 9.2. Other information

Specific conductivity	: 130000 pS/m
Saturation concentration	: 112 g/m <sup>3</sup>
VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Volatile. Substance has neutral reaction.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Upon combustion: CO and CO<sub>2</sub> are formed. Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

### 10.2. Chemical stability

Hygroscopic. Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

### 10.5. Incompatible materials

Strong oxidizers. Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

Dimethylglyoxime, 1% Alcoholic	
ATE US (oral)	500.000 mg/kg body weight
Ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg (Rat; Experimental value,Rat; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit; Literature study)
ATE US (oral)	10740.000 mg/kg body weight
Isopropanol (67-63-0)	
LD50 oral rat	5045 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 5840 mg/kg bodyweight; Rat)
LD50 dermal rabbit	12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit)
LC50 inhalation rat (mg/l)	73 mg/l/4h (Rat)
ATE US (oral)	5045.000 mg/kg body weight
ATE US (dermal)	12870.000 mg/kg body weight
ATE US (vapors)	73.000 mg/l/4h
ATE US (dust, mist)	73.000 mg/l/4h
Methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)

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<b>Methanol (67-56-1)</b>	
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)
ATE US (oral)	100.000 mg/kg body weight
ATE US (dermal)	300.000 mg/kg body weight
ATE US (gases)	700.000 ppmV/4h
ATE US (vapors)	3.000 mg/l/4h
ATE US (dust, mist)	0.500 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

<b>Ethanol (64-17-5)</b>	
IARC group	1 - Carcinogenic to humans

<b>Isopropanol (67-63-0)</b>	
IARC group	3 - Not classifiable

Reproductive toxicity	: Suspected of damaging fertility or the unborn child (oral).
Specific target organ toxicity (single exposure)	: May cause respiratory irritation. Causes damage to organs (central nervous system, optic nerve, liver, kidneys).
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/injuries after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Respiratory difficulties. Central nervous system depression. Symptoms similar to those listed under ingestion. May cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Redness of the eye tissue. Lacrimation. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.
Symptoms/injuries after ingestion	: AFTER ABSORPTION OF HIGH QUANTITIES: Risk of aspiration pneumonia. Red skin. Body temperature rise. Damp/clammy skin. Excited/restless. Accelerated heart action. Central nervous system depression. Dizziness. Narcosis. Headache. Drunkenness. Nausea. Vomiting. Disturbed motor response. Coordination disorders. Visual disturbances. Impaired concentration. Delusions. Disturbed sensation of pain. Disturbances of heart rate. Disturbances of consciousness. Tremor. Cramps/uncontrolled muscular contractions. Dilated pupils. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Gastrointestinal complaints. Enlargement/affection of the liver. Change in the haemogramme/blood composition. Cardiac and blood circulation effects. High arterial pressure. Impairment of the nervous system. Behavioural disturbances. Mental confusion. Disturbed tactile sensibility. Tremor. Affection of the bone marrow. Affection of the endocrine system. Weakening of the immune system.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: Classification concerning the environment: not applicable.
Ecology - air	: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of substances which may contribute to the greenhouse effect (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5.
Ecology - water	: Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia). Slightly harmful to algae (EC50 (72h): 100 - 1000 mg/l). Not harmful to bacteria (EC50 >1000 mg/l). Inhibition of activated sludge.

<b>Dimethylglyoxime, 1% Alcoholic</b>	
Threshold limit other aquatic organisms 1	65 mg/l (72 h; Protozoa)



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<b>Dimethylglyoxime, 1% Alcoholic</b>	
Threshold limit algae 1	1450 mg/l (192 h; Microcystis aeruginosa; Growth rate)
Threshold limit algae 2	5000 mg/l (168 h; Scenedesmus quadricauda; Growth rate)
<b>Ethanol (64-17-5)</b>	
LC50 fish 1	14200 mg/l (96 h; Pimephales promelas; Nominal concentration)
EC50 Daphnia 1	9300 mg/l (48 h; Daphnia magna)
LC50 fish 2	13000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	10800 mg/l (24 h; Daphnia magna)
Threshold limit other aquatic organisms 1	65 mg/l (72 h; Protozoa)
Threshold limit algae 1	1450 mg/l (192 h; Microcystis aeruginosa; Growth rate)
Threshold limit algae 2	5000 mg/l (168 h; Scenedesmus quadricauda; Growth rate)
<b>Isopropanol (67-63-0)</b>	
LC50 fish 1	4200 mg/l (96 h; Rasbora heteromorpha; Flow-through system)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna)
LC50 fish 2	9640 mg/l (96 h; Pimephales promelas; Lethal)
EC50 Daphnia 2	13299 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	> 1000 mg/l (72 h; Scenedesmus subspicatus; Growth rate)
Threshold limit algae 2	1800 mg/l (72 h; Algae; Cell numbers)
<b>Methanol (67-56-1)</b>	
LC50 fish 1	15400 mg/l (96 h; Lepomis macrochirus; Lethal)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna; Lethal)
LC50 fish 2	10800 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	24500 mg/l (48 h; Daphnia magna)
Threshold limit other aquatic organisms 1	6600 mg/l (16 h; Pseudomonas putida)
Threshold limit algae 1	530 mg/l (192 h; Microcystis aeruginosa)
Threshold limit algae 2	8000 mg/l (168 h; Scenedesmus quadricauda)

### 12.2. Persistence and degradability

<b>Dimethylglyoxime, 1% Alcoholic</b>	
Persistence and degradability	Not established.
<b>Ethanol (64-17-5)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No test data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.70 g O <sub>2</sub> /g substance
ThOD	2.10 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.43 % ThOD
<b>Isopropanol (67-63-0)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No test data on mobility of the substance available.
Biochemical oxygen demand (BOD)	1.19 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.23 g O <sub>2</sub> /g substance
ThOD	2.40 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.49 % ThOD
<b>Methanol (67-56-1)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.42 g O <sub>2</sub> /g substance
ThOD	1.5 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.8 % ThOD



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Dimethylglyoxime (95-45-4)	
Persistence and degradability	Biodegradability in soil: no data available.

### 12.3. Bioaccumulative potential

Dimethylglyoxime, 1% Alcoholic	
Bioaccumulative potential	Not established.

Ethanol (64-17-5)	
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Isopropanol (67-63-0)	
Log Pow	0.05 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Methanol (67-56-1)	
BCF fish 1	< 10 (Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Dimethylglyoxime (95-45-4)	
Log Pow	-2.16 - -0.29
Bioaccumulative potential	Bioaccumulation: not applicable.

### 12.4. Mobility in soil

Dimethylglyoxime, 1% Alcoholic	
Surface tension	0.022 N/m 20 °C

Ethanol (64-17-5)	
Surface tension	0.022 N/m (20 °C)

Isopropanol (67-63-0)	
Surface tension	0.021 N/m (25 °C)

Methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)

### 12.5. Other adverse effects

Effect on ozone layer	:
Effect on the global warming	: No known ecological damage caused by this product.
Other information	: Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations	: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Do not discharge into surface water. May be discharged to wastewater treatment installation. Dispose in a safe manner in accordance with local/national regulations.
Additional information	: LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC. Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials	: Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT	
Transport document description	: UN1170 Ethanol solutions, 3, II
UN-No.(DOT)	: UN1170
Proper Shipping Name (DOT)	: Ethanol solutions

# Dimethylglyoxime, 1% Alcoholic

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Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger

DOT Special Provisions (49 CFR 172.102) : 24 - Alcoholic beverages containing more than 70 percent alcohol by volume must be transported as materials in Packing Group II. Alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol by volume must be transported as materials in Packing Group III.  
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.  
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)  
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 4b;150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

### Additional information

Other information : No supplementary information available.

### ADR

Transport document description : UN 1170, 3, II, (D/E)

Packing group (ADR) : II

Class (ADR) : 3 - Flammable liquid

Hazard identification number (Kemler No.) : 33

Classification code (ADR) : F1

Hazard labels (ADR) : 3 - Flammable liquids



Orange plates : An orange rectangular label with a black border. It is divided into two horizontal sections. The top section contains the number '33' and the bottom section contains the number '1170'.

Tunnel restriction code : D/E

### Transport by sea

UN-No. (IMDG) : 1170

Class (IMDG) : 3 - Flammable liquids

EmS-No. (1) : F-E

EmS-No. (2) : S-D

### Air transport

UN-No.(IATA) : 1170

Class (IATA) : 3 - Flammable Liquids

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Packing group (IATA)

: II - Medium Danger

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Dimethylglyoxime, 1% Alcoholic

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

##### Isopropanol (67-63-0)

Listed on United States SARA Section 313

##### Methanol (67-56-1)

Listed on United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard

#### 15.2. International regulations

##### CANADA

##### Dimethylglyoxime, 1% Alcoholic

WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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##### Isopropanol (67-63-0)

WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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##### Methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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##### Dimethylglyoxime (95-45-4)

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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#### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11

Full text of R-phrases: see section 16

#### 15.2.2. National regulations

##### Ethanol (64-17-5)

Listed on IARC (International Agency for Research on Cancer)

##### Methanol (67-56-1)

Listed on the Canadian IDL (Ingredient Disclosure List)

#### 15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity

# Dimethylglyoxime, 1% Alcoholic

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Methanol (67-56-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	Yes	No	No	23000 µg/day

### SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Carc. 1A	Carcinogenicity Category 1A
Comb. Dust	Combustible Dust
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H232	May form combustible dust concentrations in air
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H370	Causes damage to organs

NFPA health hazard

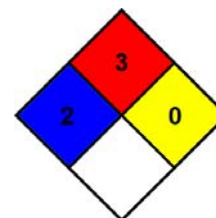
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard

: 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 3 Serious Hazard

Physical : 0 Minimal Hazard

Personal Protection : H

SDS US (GHS HazCom 2012)

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