# Formaldehyde, 37% w/w

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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## SECTION 1: Identification

### 1.1. Identification

| | | |
|---|---|---|
| Product form | : | Substance |
| Substance name | : | Formaldehyde, 37% w/w |
| CAS-No. | : | 50-00-0 |
| Product code | : | 1.1160 |
| Formula | : | CH2O |
| Synonyms | : | formic aldehyde, 37% / formol, 37% / methanal, 37% / methyl aldehyde, 37% / methylene glycol, 37% / methylene oxide, 37% / oxomethane, 37% / oxomethylene, 37% / paraform, 37% / tetraoxymethylene, 37% |

### 1.2. Recommended use and restrictions on use

| | | |
|---|---|---|
| Use of the substance/mixture | : | Chemical intermediate<br>Disinfectant<br>Laboratory chemical |
| Recommended use | : | Laboratory chemicals |
| Restrictions on use | : | Not for food, drug or household use |

### 1.3. Supplier

NEUTRON PHARMACHEMICAL CO

98, 9th Floor, Borjsaz Building, Azadi Ave, Tehran, Iran.
T 021-66906732-3 - F 021-66581408
info@neutronpharmachemical.com -
www.neutronpharmachemical.com

### 1.4. Emergency telephone number

| | | |
|---|---|---|
| Emergency number | : | CHEMTREC: 125 |

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

| | | |
|---|---|---|
| Flammable liquids Category 3 | H226 | Flammable liquid and vapour |
| Acute toxicity (oral) Category 4 | H302 | Harmful if swallowed |
| Acute toxicity (dermal) Category 4 | H312 | Harmful in contact with skin |
| Acute toxicity (inhalation:vapour) Category 2 | H330 | Fatal if inhaled |
| Skin corrosion/irritation Category 1C | H314 | Causes severe skin burns and eye damage |
| Serious eye damage/eye irritation Category 1 | H318 | Causes serious eye damage |
| Carcinogenicity Category 1A | H350 | May cause cancer (Inhalation) |
| Specific target organ toxicity (single exposure) Category 1 | H370 | Causes damage to organs (central nervous system, optic nerve, respiratory system) |
| Hazardous to the aquatic environment - Acute Hazard Category 2 | H401 | Toxic to aquatic life |

Full text of H statements : see section 16

### 2.2. GHS Label elements, including precautionary statements

**GHS-US labeling**

Hazard pictograms (GHS-US) :

GHS02 GHS05 GHS06 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H226 - Flammable liquid and vapour
H302+H312 - Harmful if swallowed or in contact with skin
H314 - Causes severe skin burns and eye damage
H330 - Fatal if inhaled
H350 - May cause cancer (Inhalation)
H370 - Causes damage to organs (central nervous system, optic nerve, respiratory system)
H401 - Toxic to aquatic life

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, sparks, open flames, hot surfaces. - 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.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves, eye protection, face protection.
P284 - Wear respiratory protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a poison center or doctor/physician.
P363 - Wash contaminated clothing before reuse.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations
If inhaled: Remove person to fresh air and keep comfortable for breathing

### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None under normal conditions.

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

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Substance type : Multi-constituent

Name : Formaldehyde, 37% w/w

CAS-No. : 50-00-0

| Name | Product identifier | % | GHS-US classification |
|---|---|---|---|
| Water | (CAS-No.) 7732-18-5 | 48 - 53 | Not classified |
| Formaldehyde | (CAS-No.) 50-00-0 | 37 | Acute Tox. 1 (Inhalation:gas), H330<br>Carc. 1A, H350 |
| Methanol | (CAS-No.) 67-56-1 | 10 - 15 | Flam. Liq. 2, H225<br>Acute Tox. 3 (Oral), H301<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation), H331<br>STOT SE 1, H370 |

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## 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.

First-aid measures after inhalation : Remove the victim into fresh air. Immediately consult a doctor/medical service.

First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist.

First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital. Do not give chemical antidote. Doctor: gastric lavage.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/effects after inhalation : Runny nose. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. EXPOSURE TO HIGH CONCENTRATIONS: Possible oedema of the upper respiratory tract. Possible laryngeal spasm/oedema. Respiratory difficulties. Risk of lung edema.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact : Corrosion of the eye tissue.

Symptoms/effects after ingestion : Nausea. Vomiting. Diarrhoea. AFTER ABSORPTION OF LARGE QUANTITIES: Central nervous system depression. Dizziness. Blood in vomit. Blood in stool. Shock. Disturbances of consciousness. Change in the blood composition. Change in urine composition. Urine discolouration.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Skin rash/inflammation. Coughing. Possible inflammation of the respiratory tract. Respiratory difficulties.

### 4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand.

Unsuitable extinguishing media : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

### 5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD. Material presenting a fire hazard. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

Reactivity : Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Reacts with (some) acids: release of (highly) toxic compounds. Unstabilized product polymerizes.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting : 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

#### 6.1.1. For non-emergency personnel

Protective equipment : Gas-tight suit. Corrosion-proof suit.

Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Close doors and windows of adjacent premises. No naked flames. Keep containers closed. Wash contaminated clothes.

#### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Do not breathe gas, fumes, vapor or spray.

Emergency procedures : If a major spill occurs, all personnel should be immediately evacuated and the area ventilated. Ventilate area. Stop leak if safe to do so.

### 6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

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

For containment : Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Dilute toxic gases/vapours with water spray. Take account of toxic/corrosive precipitation water.

Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

### 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

Precautions for safe handling : Use earthed equipment. Keep away from naked flames/heat. At temperature > flashpoint: use spark-/explosionproof appliances. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Exhaust gas must be neutralised. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

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

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong oxidizers. Strong bases. metals. Acid chlorides. Acid anhydrides. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage temperature : < 55 °C

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

Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. strong acids. (strong) bases.

Storage area : Store in a cool area. Keep container in a well-ventilated place. Keep locked up. Provide for a tub to collect spills. Unauthorized persons are not admitted. Meet the legal requirements.

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

Packaging materials : SUITABLE MATERIAL: stainless steel. aluminium. HDPE. LDPE (Low Density Poly Ethylene). MATERIAL TO AVOID: steel. iron. copper. zinc. nickel. paper. cardboard. glass.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| Formaldehyde, 37% w/w (50-00-0) | | |
|---|---|---|
| ACGIH | ACGIH Ceiling (mg/m³) | 0.37 mg/m³ |
| OSHA | OSHA PEL (TWA) (ppm) | 0.75 ppm |
| OSHA | OSHA PEL (STEL) (ppm) | 2 ppm |
| IDLH | US IDLH (ppm) | 20 ppm |
| NIOSH | NIOSH REL (TWA) (ppm) | 0.016 ppm |
| NIOSH | NIOSH REL (ceiling) (ppm) | 0.1 ppm 15 min. |

| Formaldehyde (50-00-0) | | |
|---|---|---|
| ACGIH | ACGIH Ceiling (mg/m³) | 0.37 mg/m³ |
| ACGIH | ACGIH Ceiling (ppm) | 0.3 ppm |
| OSHA | OSHA PEL (TWA) (ppm) | 0.75 ppm |
| OSHA | OSHA PEL (STEL) (ppm) | 2 ppm |
| IDLH | US IDLH (ppm) | 20 ppm |
| NIOSH | NIOSH REL (TWA) (ppm) | 0.016 ppm |
| NIOSH | NIOSH REL (ceiling) (ppm) | 0.1 ppm 15 min. |

| Methanol (67-56-1) | | |
|---|---|---|
| ACGIH | ACGIH TWA (ppm) | 200 ppm |
| ACGIH | ACGIH STEL (ppm) | 250 ppm |
| OSHA | OSHA PEL (TWA) (mg/m³) | 260 mg/m³ |
| OSHA | OSHA PEL (TWA) (ppm) | 200 ppm |
| IDLH | US IDLH (ppm) | 6000 ppm |
| NIOSH | NIOSH REL (TWA) (mg/m³) | 250 mg/m³ |
| NIOSH | NIOSH REL (TWA) (ppm) | 200 ppm |
| NIOSH | NIOSH REL (STEL) (mg/m³) | 325 mg/m³ |
| NIOSH | NIOSH REL (STEL) (ppm) | 250 ppm |
| NIOSH | Remark (NIOSH) | Skin |

| Water (7732-18-5) |
|---|
| Not applicable |

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation. Ensure adequate ventilation.

### 8.3. Individual protection measures/Personal protective equipment

**Personal protective equipment:**

Gas mask with filter type A. Protective goggles. Protective clothing. Face shield. Chemical resistant apron.

**Materials for protective clothing:**

GIVE EXCELLENT RESISTANCE: butyl rubber. nitrile rubber. viton. GIVE GOOD RESISTANCE: tetrafluoroethylene. polyethylene/ethylenevinylalcohol. GIVE LESS RESISTANCE: neoprene. PVC. GIVE POOR RESISTANCE: natural rubber. polyethylene. PVA

**Hand protection:**

Gloves

**Eye protection:**

Safety glasses

**Skin and body protection:**

Head/neck protection. Corrosion-proof clothing

**Respiratory protection:**

Full face mask with filter type A at conc. in air > exposure limit. High vapour/gas concentration: self-contained respirator

**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 |
| Appearance | : | Liquid. |
| Color | : | Colourless |
| Odor | : | Irritating/pungent odour |
| Odor threshold | : | 1 ppm<br>1.2 mg/m³ |
| pH | : | No data available |
| Melting point | : | No data available |
| Freezing point | : | No data available |
| Boiling point | : | No data available |
| Flash point | : | > 60 °C |
| Relative evaporation rate (butyl acetate=1) | : | No data available |
| Flammability (solid, gas) | : | Non flammable. |
| Vapor pressure | : | 14 hPa (20 °C) |
| Relative vapor density at 20 °C | : | No data available |
| Relative density | : | No data available |
| Specific gravity / density | : | 1.08 g/ml |
| Molecular mass | : | 30.03 g/mol |
| Solubility | : | Soluble in water. Soluble in ethanol. Soluble in methanol. Soluble in ether. Soluble in acetone.<br>Water: soluble<br>Ethanol: soluble<br>Ether: miscible<br>Acetone: miscible |
| Log Pow | : | No data available |
| Auto-ignition temperature | : | 395 °C (Aqueous solution, 1013 hPa) |
| Decomposition temperature | : | No data available |
| Viscosity, kinematic | : | No data available |
| Viscosity, dynamic | : | No data available |
| Explosion limits | : | 7 - 73 vol % (Pure substance)<br>LEL: 7 vol % (Pure substance)<br>UEL: 73 vol % (Pure substance) |
| Explosive properties | : | No data available |
| Oxidizing properties | : | No data available |

### 9.2. Other information

| | | |
|---|---|---|
| VOC content | : | >= 33 % |
| Other properties | : | Clear. Physical properties depending on the concentration. Volatile. Substance has acid reaction. |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Reacts with (some) acids: release of (highly) toxic compounds. Unstabilized product polymerizes.

### 10.2. Chemical stability

No additional information available

### 10.3. Possibility of hazardous reactions

None. Not established.

### 10.4. Conditions to avoid

Incompatible materials. Heat. Sparks. Open flame. Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong bases. Strong oxidizers. Strong acids. metals.

### 10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Hydrogen. Formaldehyde. fume.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact

Acute toxicity : Not classified

| **Formaldehyde, 37% w/w (50-00-0)** | |
|---|---|
| LD50 oral rat | 500 mg/kg |
| ATE US (oral) | 500 mg/kg body weight |
| ATE US (dermal) | 2000 mg/kg body weight |
| ATE US (vapors) | 0.578 mg/l/4h |

| **Formaldehyde (50-00-0)** | |
|---|---|
| LD50 oral rat | 500 mg/kg |
| LC50 inhalation rat (ppm) | 0.579 ppm/4h |
| ATE US (oral) | 500 mg/kg body weight |
| ATE US (gases) | 0.579 ppmV/4h |

| **Methanol (67-56-1)** | |
|---|---|
| LD50 oral rat | 1187 - 2769 mg/kg body weight (BASF test, Rat, Male/female, Weight of evidence) |
| LD50 dermal rabbit | 17100 mg/kg (Rabbit, Inconclusive, insufficient data) |
| LC50 inhalation rat (mg/l) | 128.2 mg/l air (BASF test, 4 h, Rat, Male/female, Weight of evidence) |
| ATE US (oral) | 100 mg/kg body weight |
| ATE US (dermal) | 300 mg/kg body weight |
| ATE US (gases) | 700 ppmV/4h |
| ATE US (vapors) | 3 mg/l/4h |
| ATE US (dust, mist) | 0.5 mg/l/4h |

| **Water (7732-18-5)** | |
|---|---|
| LD50 oral rat | ≥ 90000 mg/kg |
| ATE US (oral) | 90000 mg/kg body weight |

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer (Inhalation).

| **Formaldehyde (50-00-0)** | |
|---|---|
| IARC group | 1 - Carcinogenic to humans |
| National Toxicology Program (NTP) Status | 2 - Known Human Carcinogens |

Reproductive toxicity : Not classified

| | | |
|---|---|---|
| Specific target organ toxicity – single exposure | : | Causes damage to organs (central nervous system, optic nerve, respiratory system). |
| Specific target organ toxicity – repeated exposure | : | Not classified |
| Aspiration hazard | : | Not classified |
| Potential Adverse human health effects and symptoms | : | Odour tolerance may develop. Toxic if swallowed. Toxic in contact with skin. Causes severe skin burns. Toxic if inhaled. May cause respiratory irritation. Causes serious eye damage. |
| Symptoms/effects after inhalation | : | Runny nose. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. EXPOSURE TO HIGH CONCENTRATIONS: Possible oedema of the upper respiratory tract. Possible laryngeal spasm/oedema. Respiratory difficulties. Risk of lung edema. |
| Symptoms/effects after skin contact | : | Caustic burns/corrosion of the skin. |
| Symptoms/effects after eye contact | : | Corrosion of the eye tissue. |
| Symptoms/effects after ingestion | : | Nausea. Vomiting. Diarrhoea. AFTER ABSORPTION OF LARGE QUANTITIES: Central nervous system depression. Dizziness. Blood in vomit. Blood in stool. Shock. Disturbances of consciousness. Change in the blood composition. Change in urine composition. Urine discolouration. |
| Chronic symptoms | : | ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Skin rash/inflammation. Coughing. Possible inflammation of the respiratory tract. Respiratory difficulties. |

## SECTION 12: Ecological information

### 12.1. Toxicity

| | | |
|---|---|---|
| Ecology - general | : | Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008. |
| Ecology - air | : | None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). |
| Ecology - water | : | Toxic to crustacea. Toxic to fishes. Toxic to algae. pH shift. |

| **Formaldehyde, 37% w/w (50-00-0)** | |
|---|---|
| EC50 Daphnia 2 | 2 mg/l |

| **Methanol (67-56-1)** | |
|---|---|
| LC50 fish 1 | 15400 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value) |
| EC50 Daphnia 1 | 18260 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value) |
| ErC50 (algae) | 22000 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value) |

### 12.2. Persistence and degradability

| **Formaldehyde, 37% w/w (50-00-0)** | |
|---|---|
| Persistence and degradability | Readily biodegradable in water. |

| **Methanol (67-56-1)** | |
|---|---|
| Persistence and degradability | Biodegradable in the soil. Readily biodegradable in water. |
| Biochemical oxygen demand (BOD) | 0.6 - 1.12 g $O_2$/g substance |
| Chemical oxygen demand (COD) | 1.42 g $O_2$/g substance |
| ThOD | 1.5 g $O_2$/g substance |

| **Water (7732-18-5)** | |
|---|---|
| Persistence and degradability | Not established. |

### 12.3. Bioaccumulative potential

| **Formaldehyde, 37% w/w (50-00-0)** | |
|---|---|
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

| **Formaldehyde (50-00-0)** | |
|---|---|
| Log Pow | 0.35 |

| Methanol (67-56-1) | |
|---|---|
| BCF fish 1 | 1 - 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value) |
| Log Pow | -0.77 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

| Water (7732-18-5) | |
|---|---|
| Bioaccumulative potential | Not established. |

### 12.4. Mobility in soil

| Formaldehyde, 37% w/w (50-00-0) | |
|---|---|
| Ecology - soil | Contains component(s) with potential for mobility in the soil. Toxic to flora. |

| Methanol (67-56-1) | |
|---|---|
| Surface tension | 0.023 N/m (20 °C) |
| Log Koc | -0.89 - -0.21 (log Koc, Calculated value) |
| Ecology - soil | Highly mobile in soil. |

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional legislation (waste) : LWCA (the Netherlands): KGA category 06.

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. Remove to an authorized plant for the destruction, neutralization and elimination of hazardous waste.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1198 Formaldehyde solutions, flammable, 3, III

UN-No.(DOT) : UN1198

Proper Shipping Name (DOT) : Formaldehyde solutions, flammable

Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Packing group (DOT) : III - Minor Danger

Hazard labels (DOT) : 3 - Flammable liquid
8 - Corrosive


DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

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

| | | |
|---|---|---|
| DOT Special Provisions (49 CFR 172.102) | : | B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.<br>IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). 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, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).<br>T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)<br>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 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. |
| DOT Vessel Stowage Other | : | 40 - Stow ‘‘clear of living quarters’’ |
| Other information | : | No supplementary information available. |

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| **Formaldehyde, 37% w/w (50-00-0)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 100 lb |
| SARA Section 311/312 Hazard Classes | Physical hazard - Flammable (gases, aerosols, liquids, or solids)<br>Health hazard - Acute toxicity (any route of exposure)<br>Health hazard - Skin corrosion or Irritation<br>Health hazard - Serious eye damage or eye irritation<br>Health hazard - Carcinogenicity<br>Health hazard - Specific target organ toxicity (single or repeated exposure) |
| SARA Section 313 - Emission Reporting | 0.1 % |

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

| | | |
|---|---|---|
| Formaldehyde | CAS-No. 50-00-0 | 37% |
| Methanol | CAS-No. 67-56-1 | 10 - 15% |

| **Formaldehyde (50-00-0)** | |
|---|---|
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 100 lb |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 500 lb |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard<br>Delayed (chronic) health hazard |

| **Methanol (67-56-1)** | |
|---|---|
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 5000 lb |
| SARA Section 311/312 Hazard Classes | Physical hazard - Flammable (gases, aerosols, liquids, or solids)<br>Health hazard - Acute toxicity (any route of exposure)<br>Health hazard - Specific target organ toxicity (single or repeated exposure) |

### 15.2. International regulations

**CANADA**

| Formaldehyde, 37% w/w (50-00-0) |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |

| Methanol (67-56-1) |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |

**EU-Regulations**

No additional information available

**National regulations**

| Formaldehyde, 37% w/w (50-00-0) |
|---|
| Listed on the Canadian IDL (Ingredient Disclosure List) |

| Formaldehyde (50-00-0) |
|---|
| Listed on IARC (International Agency for Research on Cancer)<br>Listed as carcinogen on NTP (National Toxicology Program) |

### 15.3. US State regulations

| Formaldehyde, 37% w/w (50-00-0) | |
|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | Yes |
| U.S. - California - Proposition 65 - Developmental Toxicity | Yes |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No |
| No significant risk level (NSRL) | 40 µg/day |

This product can expose you to Formaldehyde, which is known to the State of California to cause cancer, and Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

| Formaldehyde (50-00-0) | | | | |
|---|---|---|---|---|
| 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 significant risk level (NSRL) |
| Yes | No | No | No | 40 |

| 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 significant risk level (NSRL) |
| No | Yes | No | No | |

## SECTION 16: Other information

Revision date : 05/16/2018

Other information : None.

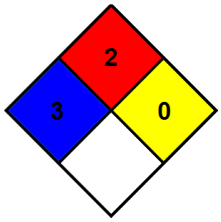
Full text of H-phrases: see section 16:

| | |
|---|---|
| H225 | Highly flammable liquid and vapour |
| H226 | Flammable liquid and vapour |
| H301 | Toxic if swallowed |
| H302 | Harmful if swallowed |
| H311 | Toxic in contact with skin |
| H312 | Harmful in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |
| H330 | Fatal if inhaled |
| H331 | Toxic if inhaled |
| H350 | May cause cancer |
| H370 | Causes damage to organs |
| H401 | Toxic to aquatic life |

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.




Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : H

H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

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