# SAFETY DATA SHEET according to the OSHA Hazard Communication Standard

Version 7.2
Revision Date 05/29/2026
Print Date 05/30/2026

## SECTION 1. IDENTIFICATION

### 1.1 Product identifiers

Product name : Formaldehyde solution

Product Number : 15512
Brand : Sigma-Aldrich

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

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

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

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

### 1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2. HAZARDS IDENTIFICATION

### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

### Hazards for the product as supplied

Flammable liquids : Category 4



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| | | |
|---|---|---|
| Acute toxicity (Oral) | : | Category 4 |
| Acute toxicity (Inhalation) | : | Category 2 |
| Skin corrosion | : | Sub-category 1B |
| Serious eye damage | : | Category 1 |
| Skin sensitisation | : | Category 1 |
| Germ cell mutagenicity | : | Category 2 |
| Carcinogenicity | : | Category 1B |
| Specific target organ toxicity - single exposure | : | Category 1 (Eyes, Central nervous system) |
| Short-term (acute) aquatic hazard | : | Category 2 |

**Other hazards**

Corrosive to the respiratory tract.

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements :
H227 Combustible liquid.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H370 Causes damage to organs (Eyes, Central nervous system).
H401 Toxic to aquatic life.

Supplemental Hazard Statements : Corrosive to the respiratory tract.

Precautionary statements :

**Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.



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P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist or vapours.
P264 Wash 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.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 Wear respiratory protection.

**Response:**

P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| | | |
|---|---|---|
| Substance / Mixture | : | Mixture |
| CAS-No. | : | Not Assigned |



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**Components**

| Chemical name | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|---|---|---|---|
| formaldehyde | 50-00-0* | >= 30 - <= 60 | TSC |
| Methanol | 67-56-1* | >= 7 - <= 13 | TSC |

* Indicates that the identifier is a CAS No.
TSC- the actual concentration or concentration range is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

| | | |
|---|---|---|
| General advice | : | First aiders need to protect themselves.<br>Show this safety data sheet to the doctor in attendance. |
| If inhaled | : | After inhalation: fresh air. Immediately call in physician.<br>If breathing stops: immediately apply artificial respiration, if necessary also oxygen. |
| In case of skin contact | : | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.<br>Call a physician immediately. |
| In case of eye contact | : | After eye contact: rinse out with plenty of water.<br>Immediately call in ophthalmologist.<br>Remove contact lenses. |
| If swallowed | : | After swallowing: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage).<br>Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour).<br>Do not attempt to neutralise. |
| Most important symptoms and effects, both acute and delayed | : | The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| Protection of first-aiders | : | For personal protection see section 8. |
| Notes to physician | : | No data available |

## SECTION 5. FIREFIGHTING MEASURES



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| | | |
|---|---|---|
| Suitable extinguishing media | : | Water<br>Foam<br>Carbon dioxide (CO2)<br>Dry powder |
| Unsuitable extinguishing media | : | For this substance/mixture no limitations of extinguishing agents are given. |
| Specific hazards during fire fighting | : | Mixture with combustible ingredients.<br><br>Vapours are heavier than air and may spread along floors.<br><br>Forms explosive mixtures with air on intense heating.<br><br>Development of hazardous combustion gases or vapours possible in the event of fire. |
| Hazardous combustion products | : | Carbon oxides |
| Specific extinguishing methods | : | No data available |
| Further information | : | Remove container from danger zone and cool with water.<br>Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Special protective equipment for fire-fighters | : | Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Advice for non-emergency personnel:<br>Do not breathe vapours, aerosols.<br>Avoid substance contact.<br>Ensure adequate ventilation.<br>Keep away from heat and sources of ignition.<br>Evacuate the danger area, observe emergency |



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procedures, consult an expert.
Advice for emergency responders:
For personal protection see section 8.Render harmless: Treatment with execess sodium hydrogen sulfite solution.

| | | |
|---|---|---|
| Environmental precautions | : | Do not let product enter drains. |
| Methods and materials for containment and cleaning up | : | Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area. |

## SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

| | | |
|---|---|---|
| Advice on protection against fire and explosion | : | Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. |
| Advice on safe handling | : | Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. |
| Further information on storage conditions | : | Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons. |
| Storage class | : | 6.1A, Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials |
| Recommended storage temperature | : | Recommended storage temperature see product label. |

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| formaldehyde | 50-00-0 | TWA | 0.1 ppm | ACGIH |
| | | STEL | 0.3 ppm | ACGIH |
| | | TWA | 0.016 ppm | NIOSH REL |



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| | | | | |
|---|---|---|---|---|
| | | C | 0.1 ppm | NIOSH REL |
| | | PEL | 0.75 ppm | OSHA CARC |
| | | STEL | 2 ppm | OSHA CARC |
| | | TWA | 0.016 ppm (Formaldehyde) | NIOSH REL |
| | | C | 0.1 ppm (Formaldehyde) | NIOSH REL |
| Methanol | 67-56-1 | TWA | 200 ppm | ACGIH |
| | | STEL | 250 ppm | ACGIH |
| | | ST | 250 ppm 325 mg/m3 | NIOSH REL |
| | | TWA | 200 ppm 260 mg/m3 | NIOSH REL |
| | | TWA | 200 ppm 260 mg/m3 | OSHA Z-1 |

**Biological occupational exposure limits**

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|---|---|---|---|---|---|---|
| Methanol | 67-56-1 | Methanol | Urine | End of shift (As soon as possible after exposure ceases) | 15 mg/l | ACGIH BEI |

**Engineering measures** : No data available

**Personal protective equipment**

Respiratory protection : required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: : Filter type ABEK

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to



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the instructions of the producer. These measures have to be properly documented.

Hand protection

| | | |
|---|---|---|
| Material | : | Nitrile rubber |
| Break through time | : | 480 min |
| Glove thickness | : | 0.40 mm |
| Protective index | : | Full contact |
| Manufacturer | : | Camatril® (KCL 730 / Aldrich Z677442, Size M) |
| | | |
| Material | : | Chloroprene |
| Break through time | : | 240 min |
| Glove thickness | : | 0.65 mm |
| Protective index | : | Splash contact |
| Manufacturer | : | KCL 720 Camapren® |
| | | |
| Remarks | : | This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). |

| | | |
|---|---|---|
| Eye protection | : | Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).<br>Tightly fitting safety goggles |
| Skin and body protection | : | protective clothing |
| Hygiene measures | : | Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | liquid |
| Color | : | colourless |
| Odor | : | No data available |
| Odor Threshold | : | No data available |
| pH | : | 2.7 - 4.0 |
| Melting point | : | No data available |



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| | | |
|---|---|---|
| Boiling point/boiling range | : | No data available |
| Flash point | : | 144 °F / 62 °C<br>Method: c.c., closed cup |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Flammability (liquids) | : | No data available |
| Burning rate | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapour density | : | No data available |
| Relative density | : | No data available |
| Density | : | 1.09 g/mL (77 °F / 25 °C) |
| Solubility(ies)<br>Water solubility | :<br>: | <br>soluble (68 °F / 20 °C) |
| Partition coefficient: n-octanol/water | : | No data available |
| Autoignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity, dynamic | : | No data available |
| Viscosity, kinematic | : | No data available |
| Flow time | : | No data available |
| Explosive properties | : | Not classified as explosive. |
| Oxidizing properties | : | none |
| Particle characteristics<br>Particle size | :<br>: | <br>No data available |



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## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | Reducing agents<br>tends to polymerise<br><br>Forms explosive mixtures with air on intense heating.<br><br>A range from approx. 15 Kelvin below the flash point is to be rated as critical. |
| Chemical stability | : | Sensitivity to light<br><br>The product is chemically stable under standard ambient conditions (room temperature) . |
| Contains the following stabiliser(s): | : | Methanol (>=9 - <=1510 %) |
| Possibility of hazardous reactions | : | Risk of explosion with:<br>Nitromethane<br>performic acid<br>Acids<br>phenol<br>Nitric acid<br>hydrogen peroxide<br>peracetic acid<br>nitrogen dioxide<br>Exothermic reaction with:<br>Bases<br>nitrides<br>polymerisation initiators<br>Sodium hydroxide<br>potassium permanganate<br>furfuryl alcohol<br>Strong oxidizing agents<br>perchloric acid<br>Generates dangerous gases or fumes in contact with:<br>hydrochloric acid<br>magnesium carbonate |
| Conditions to avoid | : | Exposure to light.<br><br>Strong heating. |
| Incompatible materials | : | various metals<br>various alloys<br>Mild steel<br>Copper |
| Hazardous decomposition | : | In the event of fire: see section 5 |



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## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Mixture**

**Acute toxicity**
Oral: No data available
Acute toxicity estimate Oral - 598.18 mg/kg
(Calculation method)
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Inhalation: No data available

Acute toxicity estimate Inhalation - 4 h - 1.32 mg/l - vapour(Calculation method)

Symptoms: Possible symptoms:, mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Dermal: No data available

Acute toxicity estimate Dermal - 3,001 mg/kg
(Calculation method)

**Skin corrosion/irritation**
Remarks: Mixture causes burns.

**Serious eye damage/eye irritation**
Remarks: Mixture causes serious eye damage.
Risk of blindness!

**Respiratory or skin sensitization**
Mixture may cause an allergic skin reaction.

**Germ cell mutagenicity**
Evidence of genetic defects.

**Carcinogenicity**
Possible carcinogen.

| | |
|---|---|
| IARC: | 1 - Group 1: Carcinogenic to humans (formaldehyde) |
| NTP: | Known - Known to be human carcinogen (formaldehyde) |
| OSHA: | OSHA specifically regulated carcinogen (formaldehyde) |

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
Mixture causes damage to organs. - Eyes, Central nervous system

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available



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## 11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Liver - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

**Components**

**formaldehyde**

**Acute toxicity**
LD50 Oral - Rat - male - 640 mg/kg
(OECD Test Guideline 401)
LD50 Oral - Rat - male - 550 mg/kg
(OECD Test Guideline 401)
Acute toxicity estimate Inhalation - 4 h - 0.51 mg/l - vapour
(Expert judgement)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Inhalation: Corrosive to respiratory system.
Dermal: No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: Causes burns. - 20 h
(OECD Test Guideline 404)

**Serious eye damage/eye irritation**
Remarks: Causes serious eye damage.

**Respiratory or skin sensitization**
Maximisation Test - Guinea pig
Result: positive
(OECD Test Guideline 406)

**Germ cell mutagenicity**
Suspected of causing genetic defects.

**Carcinogenicity**
Presumed to have carcinogenic potential for humans

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
May cause respiratory irritation.



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**Specific target organ toxicity - repeated exposure**

**Aspiration hazard**
No data available

**Methanol**

**Acute toxicity**
Acute toxicity estimate Oral - 100.1 mg/kg
(Expert judgement)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Symptoms: Nausea, Vomiting
Acute toxicity estimate Inhalation - 4 h - 3.1 mg/l - vapour
(Expert judgement)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Symptoms: Irritation symptoms in the respiratory tract.
Acute toxicity estimate Dermal - 300.1 mg/kg
(Expert judgement)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Skin corrosion/irritation**
Skin - Rabbit
Result: No skin irritation
Remarks: (ECHA)
Remarks: Drying-out effect resulting in rough and chapped skin.

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: No eye irritation
Remarks: (ECHA)

**Respiratory or skin sensitization**
Sensitisation test: - Guinea pig
Result: negative
(OECD Test Guideline 406)

**Germ cell mutagenicity**
Based on available data the classification criteria are not met.
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female - Bone marrow
Result: negative

**Carcinogenicity**
Did not show carcinogenic effects in animal experiments.



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**Reproductive toxicity**
Based on available data the classification criteria are not met.

**Specific target organ toxicity - single exposure**
Causes damage to organs. - Eyes, Central nervous system
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Acute oral toxicity - Nausea, Vomiting
Acute inhalation toxicity - Irritation symptoms in the respiratory tract.

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**formaldehyde:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Morone saxatilis): 6.7 mg/l<br>End point: mortality<br>Exposure time: 96 h<br>Test Type: static test<br>Remarks: (ECHA) |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia pulex (Water flea)): 5.8 mg/l<br>End point: Immobilization<br>Exposure time: 48 h<br>Test Type: static test<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | ErC50 (Desmodesmus subspicatus (green algae)): 4.89 mg/l<br>Exposure time: 72 h<br>Test Type: static test<br>Method: OECD Test Guideline 201 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): >= 6.4 mg/l<br>End point: reproduction rate<br>Exposure time: 21 d<br>Test Type: semi-static test<br>Analytical monitoring: yes<br>Method: OECD Test Guideline 211<br>GLP: yes |
| Toxicity to microorganisms | : | EC50 (activated sludge): 19 mg/l<br>Exposure time: 3 h<br>Test Type: static test |



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Method: OECD Test Guideline 209

**Methanol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Lepomis macrochirus (Bluegill)): 15,400.0 mg/l<br>End point: mortality<br>Exposure time: 96 h<br>Test Type: flow-through test<br>Analytical monitoring: yes<br>Method: US-EPA |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 18,260 mg/l<br>End point: Immobilization<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): ca. 22,000.0 mg/l<br>Exposure time: 96 h<br>Test Type: static test<br>Method: OECD Test Guideline 201 |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Oryzias latipes (Orange-red killifish)): 7,900 mg/l<br>Exposure time: 200 h<br>Remarks: (External MSDS) |
| Toxicity to microorganisms | : | IC50 (activated sludge): > 1,000 mg/l<br>Exposure time: 3 h<br>Test Type: static test<br>Analytical monitoring: yes<br>Method: OECD Test Guideline 209 |

**Persistence and degradability**

**Components:**

**formaldehyde:**

| | | |
|---|---|---|
| Biodegradability | : | aerobic<br>Inoculum: Sewage sludge<br>Concentration: 10 mg/l<br>Dissolved organic carbon (DOC)<br>Result: Readily biodegradable.<br>Biodegradation: 99 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301A<br>GLP: yes |
| BOD/COD | : | BOD/COD: 0.74 % |

**Methanol:**



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| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 99 %<br>Exposure time: 30 d<br>Method: OECD Test Guideline 301D |
| Biochemical Oxygen Demand (BOD) | : | 600 - 1,120 mg/g<br>Incubation time: 5 d<br>Remarks: (IUCLID) |
| Chemical Oxygen Demand (COD) | : | 1,420 mg/g<br>Remarks: (IUCLID) |
| ThOD | : | 1,500 mg/g<br>Remarks: (Lit.) |
| BOD/ThOD | : | 76 %<br>Remarks: Closed Bottle test<br>(IUCLID) |
| Stability in water | : | Hydrolysis: 83 - 91 % at 19 °C(72 h)<br>Remarks: Hydrolyses on contact with water.<br>Hydrolyses readily.<br><br>Degradation half life: 2.2 yr<br>Remarks: reaction with hydroxyl radicals<br>(IUCLID) |
| Photodegradation | : | Degradation (direct photolysis): 50 % Degradation half life: 17.2 d |

**Bioaccumulative potential**

**Components:**

**formaldehyde:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 0.021<br>Remarks: (Lit.)<br>Bioaccumulation is not expected. |

**Methanol:**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Cyprinus carpio (Carp)<br>Bioconcentration factor (BCF): 1.0<br>Exposure time: 72 d<br>Temperature: 68 °F / 20 °C<br>Concentration: 5 mg/l |
| Partition coefficient: n-octanol/water | : | log Pow: -0.77 (77 °F / 25 °C)<br>Method: (experimental)<br>Remarks: (HSDB)<br>Bioaccumulation is not expected. |



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**Mobility in soil**

**Components:**

**Methanol:**

Stability in soil : Remarks: Will not adsorb on soil.

**Other adverse effects**

**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

**Components:**

**formaldehyde:**

Results of PBT and vPvB assessment : Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

**Methanol:**

Results of PBT and vPvB assessment : Not persistent, bioaccumulative, and toxic (PBT).

Additional ecological information : Avoid release to the environment.

**Endocrine disrupting properties**

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

## SECTION 14. TRANSPORT INFORMATION

**International Regulations**

**IATA-DGR**

UN/ID No. : UN 2209



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| | | |
|---|---|---|
| Proper shipping name | : | Formaldehyde solution |
| Class | : | 8 |
| Packing group | : | III |
| Labels | : | Class 8 - Corrosive substances |
| Packing instruction (cargo aircraft) | : | 856 |
| Packing instruction (passenger aircraft) | : | 852 |

**IMDG-Code**

| | | |
|---|---|---|
| UN number | : | UN 2209 |
| Proper shipping name | : | FORMALDEHYDE SOLUTION |
| Class | : | 8 |
| Packing group | : | III |
| Labels | : | 8 |
| EmS Code | : | F-A, S-B |
| Marine pollutant | : | no |

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**National Regulations**

**49 CFR**

| | | |
|---|---|---|
| UN/ID/NA number | : | UN 1198 |
| Proper shipping name | : | Formaldehyde solutions, flammable |
| Class | : | 3 |
| Subsidiary risk | : | 8 |
| Packing group | : | III |
| Labels | : | Class 3 - Flammable liquids, Class 8 - Corrosive substances |
| ERG Code | : | 132 |
| Marine pollutant | : | no |
| Poison Inhalation Hazard | : | No |

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

**CERCLA Reportable Quantity**

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---|---|---|---|
| formaldehyde | 50-00-0 | 100 | 270 |

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

| Components | CAS-No. | Component | Calculated product |
|---|---|---|---|



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| | | RQ (lbs) | RQ (lbs) |
|---|---|---|---|
| formaldehyde | 50-00-0 | 100 | 270 |

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

| Components | CAS-No. | Component TPQ (lbs) |
|---|---|---|
| formaldehyde | 50-00-0 | 500 |

**SARA 311/312 Hazards** : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

| | | |
|---|---|---|
| formaldehyde | 50-00-0 | >= 30 - < 50 % |
| Methanol | 67-56-1 | >= 10 - < 20 % |

**Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

| | | |
|---|---|---|
| formaldehyde | 50-00-0 | >= 30 - < 50 % |
| Methanol | 67-56-1 | >= 10 - < 20 % |

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

| | | |
|---|---|---|
| formaldehyde | 50-00-0 | >= 30 - < 50 % |

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

| | | |
|---|---|---|
| formaldehyde | 50-00-0 | >= 30 - < 50 % |
| Methanol | 67-56-1 | >= 10 - < 20 % |

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

| | | |
|---|---|---|
| formaldehyde | 50-00-0 | >= 30 - < 50 % |

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

| | | |
|---|---|---|
| formaldehyde | 50-00-0 | >= 30 - < 50 % |

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

**US State Regulations**

**Massachusetts Right To Know**

| | |
|---|---|
| formaldehyde | 50-00-0 |
| Methanol | 67-56-1 |

**Pennsylvania Right To Know**

| | |
|---|---|
| formaldehyde | 50-00-0 |
| Methanol | 67-56-1 |



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**Maine Chemicals of High Concern**

Product does not contain any listed chemicals

**Vermont Chemicals of High Concern**

| | |
|---|---|
| formaldehyde | 50-00-0 |

**Washington Chemicals of High Concern**

| | |
|---|---|
| formaldehyde | 50-00-0 |

**California Prop. 65**

WARNING: This product can expose you to chemicals including formaldehyde, which is/are known to the State of California to cause cancer, and Methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. **The components of this product are reported in the following inventories:**

US TSCA : All substances listed as active on the TSCA inventory

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## SECTION 16. OTHER INFORMATION

**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH BEI | : | ACGIH - Biological Exposure Indices (BEI) |
| NIOSH REL | : | USA. NIOSH Recommended Exposure Limits |
| OSHA CARC | : | OSHA Specifically Regulated Chemicals/Carcinogens |
| OSHA Z-1 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| ACGIH / STEL | : | Short-term exposure limit |
| NIOSH REL / TWA | : | Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek |
| NIOSH REL / ST | : | STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday |
| NIOSH REL / C | : | Ceiling value not be exceeded at any time. |
| OSHA CARC / PEL | : | Permissible exposure limit (PEL) |
| OSHA CARC / STEL | : | Excursion limit |
| OSHA Z-1 / TWA | : | 8-hour time weighted average |

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -



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Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.
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