

MATERIAL SAFETY DATA SHEET

Formaldehyde, reagent ACS, 37 wt% solution , stabilized

Section 1 - Chemical Product and Company Identification

MSDS Name:	Formaldehyde, reagent ACS, 37 wt% solution , stabilized
Catalog Numbers:	41073-0000, 41073-0010, 41073-1000
Synonyms:	FormolMethanalFormalin
Company Identification:	Acros Organics BVBA Janssen Pharmaceuticaaan 3a 2440 Geel, Belgium
Company Identification: (USA)	Acros Organics One Reagent Lane Fair Lawn, NJ 07410
For information in the US, call:	800-ACROS-01
For information in Europe, call:	+32 14 57 52 11
Emergency Number, Europe:	+32 14 57 52 99
Emergency Number US:	201-796-7100
CHEMTREC Phone Number, US:	800-424-9300
CHEMTREC Phone Number, Europe:	703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
50-00-0	Formaldehyde	37%	200-001-8	T	23/24/25 34 40 43
67-56-1	Methanol	10-15%	200-659-6	F T	11 23/24/25 39/23/24/25
7732-18-5	Water		231-791-2		

Text for R-phrases: see Section 16

Hazard Symbols: T**Risk Phrases:** 23/24/25 34 40 43

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Toxic by inhalation, in contact with skin and if swallowed. Causes burns. Limited evidence of a carcinogenic effect. May cause sensitization by skin contact.

Potential Health Effects

- Eye:** Causes eye burns. Lachrymator (substance which increases the flow of tears).
- Skin:** Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Toxic in contact with skin.
- Ingestion:** Causes gastrointestinal tract burns. May cause severe digestive tract irritation with

abdominal pain, nausea, vomiting and diarrhea. Toxic if swallowed.

Inhalation: May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract. Toxic if inhaled. May cause nausea, dizziness, and headache.

Chronic: May cause cancer in humans. Chronic exposure may cause lung damage. Prolonged or repeated contact may cause possible eczema.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. Get medical aid immediately. Wash mouth out with water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Will burn if involved in a fire. Combustible liquid.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

Section 7 - Handling and Storage

Handling: Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Store in a dry area. Store at around 20°C.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

CAS# 50-00-0:

United Kingdom, WEL - TWA: 2 ppm TWA; 2.5 mg/m³ TWA United Kingdom, WEL - STEL: 2 ppm STEL; 2.5 mg/m³ STEL

United States OSHA: ; 0.75 ppm TWA; 2 ppm STEL; 0.5 ppm Action Level (Irritant and potential cancer hazard - see 29 CFR 1910.1048)

Belgium - STEL: 0.3 ppm VLE; 0.38 mg/m³ VLE

France - VME: 0.5 ppm VME France - VLE: 1 ppm VLE

Germany: 0.5 ppm TWA; 0.62 mg/m³ TWA Germany: skin notation

Japan: 0.5 ppm OEL; 0.61 mg/m³ OEL

Malaysia: 0.3 ppm Ceiling; 0.37 mg/m³ Ceiling

Netherlands: 2 ppm STEL; 3 mg/m³ STEL Netherlands: 1 ppm MAC; 1.5 mg/m³ MAC
Spain: 0.3 ppm VLA-EC; 0.37 mg/m³ VLA-EC

CAS# 67-56-1:

United Kingdom, WEL - TWA: 200 ppm TWA; 266 mg/m³ TWA United Kingdom, WEL - STEL: 250 ppm STEL; 333 mg/m³ STEL
United States OSHA: 200 ppm TWA; 260 mg/m³ TWA
Belgium - TWA: 200 ppm VLE; 266 mg/m³ VLE Belgium - STEL: 250 ppm VLE; 333 mg/m³ VLE
France - VME: 200 ppm VME; 260 mg/m³ VME France - VLE: 1000 ppm VLE; 1300 mg/m³ VLE
Germany: 200 ppm TWA; 270 mg/m³ TWA Germany: skin notation
Japan: 200 ppm OEL; 260 mg/m³ OEL
Malaysia: 200 ppm TWA; 262 mg/m³ TWA
Netherlands: 200 ppm MAC; 260 mg/m³ MAC
Russia: 5 mg/m³ TWA (vapour)
Spain: 200 ppm VLA-ED; 266 mg/m³ VLA-ED Spain: 250 ppm VLA-EC; 333 mg/m³ VLA-EC

CAS# 7732-18-5:

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid

Color: APHA: 10 max

Odor: pungent odor

pH: 3-4.2

Vapor Pressure: 2 mbar @ 20 deg C

Viscosity: Not available

Boiling Point: 96 deg C (204.80°F)

Freezing/Melting Point: -15 deg C (5.00°F)

Autoignition Temperature: 424 deg C (795.20 deg F)

Flash Point: 60 deg C (140.00 deg F)

Explosion Limits: Lower: 7 Vol %

Explosion Limits: Upper: 73 Vol %

Decomposition Temperature: Not available

Solubility in water: Soluble

Specific Gravity/Density: 1.040

Molecular Formula: CH₂O

Molecular Weight: 30.02

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid:	Incompatible materials, ignition sources, heat.
Incompatibilities with Other Materials	Strong oxidizing agents, reducing agents, strong acids, strong bases, acid chlorides, alkali metals, amines, anhydrides, phenols, isocyanates, acid anhydrides, aniline.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide.
Hazardous Polymerization	Will not occur.

Section 11 - Toxicological Information

RTECS#:	CAS# 50-00-0: LP8925000 CAS# 67-56-1: PC1400000 CAS# 7732-18-5: ZC0110000
LD50/LC50:	<p>RTECS: CAS# 50-00-0: Draize test, rabbit, eye: 750 ug/24H Severe; Draize test, rabbit, eye: 750 ug Severe; Draize test, rabbit, eye: 10 mg Severe; Draize test, rabbit, eye: 37% Severe; Draize test, rabbit, skin: 2 mg/24H Severe; Draize test, rabbit, skin: 50 mg/24H Moderate; Inhalation, mouse: LC50 = 454 mg/m³/4H; Inhalation, mouse: LC50 = 505 mg/m³/2H; Inhalation, rat: LC50 = 203 mg/m³; Inhalation, rat: LC50 = 578 mg/m³/2H; Inhalation, rat: LC50 = 250 ppm/2H; Oral, mouse: LD50 = 42 mg/kg; Oral, mouse: LD50 = 385 mg/kg; Oral, mouse: LD50 = 500 mg/kg; Oral, rat: LD50 = 100 mg/kg; Oral, rat: LD50 = 500 mg/kg; Skin, rabbit: LD50 = 270 uL/kg; Skin, rabbit: LD50 = 270 mg/kg;</p> <p>. RTECS: CAS# 67-56-1: Draize test, rabbit, eye: 40 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, rabbit: LC50 = 81000 mg/m³/14H; Inhalation, rat: LC50 = 64000 ppm/4H; Oral, mouse: LD50 = 7300 mg/kg; Oral, rabbit: LD50 = 14200 mg/kg; Oral, rat: LD50 = 5600 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg;</p> <p>. RTECS: CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg;</p> <p>.</p>
Carcinogenicity:	Formaldehyde - ACGIH: A2 - Suspected Human Carcinogen California: carcinogen, initial date 1/1/88 (gas) NTP: Suspect carcinogen IARC: Group 1 carcinogen Methanol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65. Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:	See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:	<p>Fish: Rainbow trout: LC50: 440-618 mg/l; 96h; . Fish: Bluegill/Sunfish: LC50: 100 µl/l; 96h; . Fish: Fathead Minnow: LC50: 24 mg/l; 96h; . Fish: Zebrafish: LC50: 41 mg/l; 96h; . Daphnia: Daphnia: EC50: 2 mg/l; 48h; . Bacteria: Phytobacterium phosphoreum: EC50: 8.5 mg/l; 30min; .</p>
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Other: Readily biodegradable.
Log Pow: 0.0

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	FORMALDEHYDE SOLUTION, FLAMMABLE	FORMALDEHYDE SOLUTION, FLAMMABLE	FORMALDEHYDE SOLUTION, FLAMMABLE
Hazard Class:	3 (8)	3 (8)	3 (8)
UN Number:	1198	1198	1198
Packing Group:	III	III	III

USA RQ: CAS# 50-00-0: 100 lb final RQ; 45.4 kg final RQ

USA RQ: CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T

Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 34 Causes burns.

R 40 Limited evidence of a carcinogenic effect.

R 43 May cause sensitization by skin contact.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 51 Use only in well-ventilated areas.

WGK (Water Danger/Protection)

CAS# 50-00-0: 2

CAS# 67-56-1: 1

CAS# 7732-18-5: Not available

Canada

CAS# 50-00-0 is listed on Canada's DSL List

CAS# 67-56-1 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

US Federal

TSCA

CAS# 50-00-0 is listed on the TSCA Inventory.

CAS# 67-56-1 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

Section 16 - Other Information

Text for R-phrases from Section 2

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 34 Causes burns.

R 40 Limited evidence of a carcinogenic effect.

R 43 May cause sensitization by skin contact.

R 39/23/24/25 Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

MSDS Creation Date: 7/16/1996

Revision #5 Date 4/25/2005

Revisions were made in Sections: General revision.

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