Safety Data Sheet

FORMALIN, 10% (3.7% Buffered Formaldehyde)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Formalin, 10%, (3.7% Buffered Formaldehyde)

Synonyms/Generic Names: Methylene Oxide; Methyl Aldehyde

Product Number: CP-C7733P, CP-E7733P, 8677

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: ChemPure Brand Chemicals
39103 Warren Road
Westland, MI 48185

For More Information Call: 734-729-1805 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Combustible Liquid, Carcinogen, Target Organ Effect, Toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Skin sensitizer, Irritant, Corrosive

Target Organs: Eyes, Kidney, Liver, Heart, Central nervous system

Signal Words: Danger

Pictograms:

GHS Classification:

Flammable liquids	Category 4
Acute toxicity, Oral	Category 4
Skin irritation	Category 2
Serious eye damage	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity – single exposure	Category 1

GHS Label Elements, including precautionary statements:

Hazard Statements:

H227	Combustible liquid.
H302	Harmful if swallowed.
H31	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

H351	Suspected of causing cancer.
H370	Causes damage to organs.

Precautionary Statements:

P260	Do not breathe dust/mist/gas/vapors/spray/fume.
P280	Wear protective gloves/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
P307+P311	IF exposed: Call a POISON CENTER or doctor/physician.

Potential Health Effects

Eyes	Causes eye burns.
Inhalation	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Toxic if absorbed through skin. Causes skin burns.
Ingestion	Toxic if swallowed.

NFPA Ratings

Health	3
Flammability	1
Reactivity	0
Specific hazard	Not Ava

HMIS Ratings

Health	3
Fire	1
Reactivity	0
Personal	G

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Formaldehyde	10	50-00-0	200-001-8	CH_2O	30.03 g/mol
Methyl Alcohol	2-4	67-56-1	200-659-6	CH_4O	32.04 g/mol
Sodium Phosphate, monobasic	<1	10049-21-5	231-449-2	$NaH_2PO_4 \cdot H_2O$	137.99 g/mol
Sodium Phosphate, dibasic	<1	7558-79-4	231-448-7	Na_2HPO_4	141.96 g/mol
Water	Balance	7732-18-5	231-791-2	H_2O	18.01 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	**Do Not Induce Vomiting!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

5. FIREFIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use flooding quantities of water to cool unopened containers.
Special protective equipment	Wear self-contained, approved breathing apparatus and full protective

and precautions for firefighters	clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (carbon oxides) under fire conditions. See also Stability and Reactivity section.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment. Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to a federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Absorb spill with inert absorbent material. Keep in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling
See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well ventilated place. Ground all containers. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Formaldehyde	0.3 ppm 0.37 mg/m^3	CEIL	ACGIH
	0.75 ppm	PEL	OSHA
	2 ppm	STEL	OSHA
	0.016 ppm	REL	NIOSH
	0.1 ppm	CEIL	NIOSH
Methyl Alcohol	200 ppm 262 mg/m^3	TLV	ACGIH
	250 ppm 328 mg/m^3	STEL	ACGIH

	200 ppm 260 mg/m^3	PEL	OSHA
	200 ppm 260 mg/m^3	REL	NIOSH
	250 ppm 325 mg/m^3	STEL	NIOSH

TWA: Time Weighted Average over 8 hours of work.
TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit during x minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles, and face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, and full body covering. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear liquid.
Odor	Pungent.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	>93°C (>200°F)
Evaporation rate	Not Available
Flammability (solid, gas)	Combustible
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	1.02 g/cm^3 (water = 1)
Solubility (ies)	Completely soluble.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Not Available
Incompatible Materials	Strong bases, acids, oxidizing agents, alkali metals, strong oxidizing agents, amines, strong acids, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline.
Hazardous Decomposition Products	Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Formaldehyde

Skin	LD50 Dermal – rabbit – 15800 mg/kg
Eyes	Not Available
Respiratory	LC50 Inhalation (mist) – mouse – 454000 mg/m – 4 hours
Ingestion	LD50 Oral – mouse – 42 mg/kg

Methyl Alcohol

Skin	LD50 Dermal- rabbit- 15,800 mg/kg
Eyes	Eyes- rabbit- Eye irritation- 24 hour
Respiratory	LC_{50} rat- 85 mg/L, 4 hours LC_{50} rat- 64000 ppm, 4 hours
Ingestion	LD_{50} rat- 5,628 mg/kg

Carcinogenicity

IARC	1 – Group 1: Carcinogenic to humans (Formaldehyde)
ACGIH	Classified A2 – Suspected for human (Formaldehyde)
NTP	Reasonably anticipated to be a human carcinogen (Formaldehyde)
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Eyes	Burns, eye burns, pain, watering eyes.
Inhalation	Burns, coughing, shortness of breath, burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea.
Skin	Burns, irritation, itching and pain.
Ingestion	Weakness, confusion, central nervous system effects, nausea and skin eruptions.

Chronic Toxicity	May cause cancer.
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Single exposure- Causes damage to organs.
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	May cause skin sensitization with repeated exposure.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Formaldehyde

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Methyl Alcohol

Aquatic Vertebrate	LC_{50}= 15,400 mg/L, 96 hours (Lepomis Macrochirus) LC50- Oncorhynchus mykiss (rainbow trout)- 19,000 mg/l- 96 h LC50- Cyprinus carpio (Carp)- 36,000.00 mg/l- 48 h
Aquatic Invertebrate	EC50- Daphnia magna (Water flea)- 24,500.00 mg/l- 48 h EC100- Daphnia magna (Water flea)- 10,000.00 mg/l- 24 h
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Listed: Formaldehyde
SARA 302	Listed: Formaldehyde
SARA 304	Not Listed
SARA 311	Formaldehyde, Methanol
SARA 312	Formaldehyde, Methanol
SARA 313	Listed: Formaldehyde, Methanol
WHMIS Canada	Class D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). Class D-2A: Material causing other toxic effects (VERY TOXIC).

16. OTHER INFORMATION

Revision	Date
Revision 1	08-15-2011
Revision 2	07/17/2013
Revision 3	11/04/2021