

# Safety Data Sheet

## Formaldehyde Solution, 10% Formalin, Neutral Buffered

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Formaldehyde Solution, 10% Formalin, Neutral Buffered  
**Recommended Use:** Science education applications  
**Synonyms:** N/A  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



Combustible Liquid Harmful if swallowed or if inhaled. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause cancer. Causes damage to organs. Harmful to aquatic life.

**GHS Classification:**

Serious Eye Damage/Eye Irritation Category 1, Skin Sensitisation Category 1, Carcinogenicity Category 1A, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 1, Skin Corrosion/Irritation Category 2, Hazardous to the aquatic environment - Acute Category 3, Flammable Liquid Category 4, Acute Toxicity - Inhalation Vapor Category 4, Acute Toxicity - Oral Category 4

**Other Safety Precautions:** IF exposed: Call a POISON CENTER or doctor/physician.

### Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Water	7732-18-5	93.6
Formaldehyde	50-00-0	3.7
Methanol	67-56-1	1.2
Sodium Phosphate, Dibasic, Anhydrous	7558-79-4	0.65
Sodium Phosphate, Monobasic	7558-80-7	0.4

### Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**Skin Contact:** IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.  
**Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, CO2 or appropriate foam.

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<b>Fire Fighting Methods and Protection:</b>	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
<b>Fire and/or Explosion Hazards:</b>	Fire or excessive heat may produce hazardous decomposition products. Vapors may travel back to ignition source. Closed Containers exposed to heat may explode.
<b>Hazardous Combustion Products:</b>	Carbon dioxide, Carbon monoxide

## Section 6 Spill or Leak Procedures

<b>Steps to Take in Case Material Is Released or Spilled:</b>	Exposure to the spilled material may be severely irritating or highly toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Ventilate the contaminated area. Keep upwind of the spilled material and isolate exposure. Remove soiled clothing and laundry before reuse. Isolate area. Keep unnecessary personnel away. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.
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## Section 7 Handling and Storage

<b>Handling:</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. Do not breathe dust/vapor. Do not get in eyes, on skin, or on clothing. Retained residue may make empty containers hazardous; use caution.
<b>Storage:</b>	Store in a well-ventilated place. Keep cool. Store locked up. Suitable for any general chemical storage.
<b>Storage Code:</b>	Blue - Toxic. Store separately in a secured area.

## Section 8 Protection Information

<b>Chemical Name</b>	<b>ACGIH</b>		<b>OSHA PEL</b>	
	<b>(TWA)</b>	<b>(STEL)</b>	<b>(TWA)</b>	<b>(STEL)</b>
Formaldehyde	N/A	N/A	0.75 ppm TWA	2 ppm STEL (see 29 CFR 1910.1048)
Methanol	200 ppm TWA	250 ppm STEL	200 ppm TWA; 260 mg/m <sup>3</sup> TWA	N/A
Sodium Phosphate, Dibasic, Anhydrous	N/A	N/A	N/A	N/A

### Control Parameters

<b>Engineering Measures:</b>	Local exhaust ventilation, process enclosures, or other engineering controls are necessary when handling or using this product to avoid overexposure.
<b>Personal Protective Equipment (PPE):</b>	Lab coat, apron, eye wash, safety shower.
<b>Respiratory Protection:</b>	Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. Wear a NIOSH approved respirator if levels above the exposure limits are possible.
<b>Eye Protection:</b>	Wear chemical splash goggles when handling this product. Have an eye wash station available.
<b>Skin Protection:</b>	Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
<b>Gloves:</b>	Nitrile, Neoprene, Polyvinyl chloride

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## Section 9

## Physical Data

**Formula:** CH<sub>2</sub>O in H<sub>2</sub>O  
**Molecular Weight:** 30.02 g/mol  
**Appearance:** Colorless Liquid  
**Odor:** Strong Alcohol Odor Pungent  
**Odor Threshold:** No data available  
**pH:** No data available  
**Melting Point:** No data available  
**Boiling Point:** 100 C Estimated 100 C  
**Flash Point:** 85  
**Flammable Limits in Air:** N/A N/A

**Vapor Pressure:** 0.002 hPa at 25 °C  
**Evaporation Rate (BuAc=1):** Less than 1  
**Vapor Density (Air=1):** 1.03 (air = 1)  
**Specific Gravity:** Approx. 1.0  
**Solubility in Water:** Soluble  
**Log Pow (calculated):** No data available  
**Autoignition Temperature:** No data available  
**Decomposition Temperature:** No data available  
**Viscosity:** No data available  
**Percent Volatile by Volume:** < 5%

## Section 10

## Reactivity Data

**Reactivity:** Not generally reactive under normal conditions.  
**Chemical Stability:** Stable under normal conditions.  
**Conditions to Avoid:** Sparks, open flame, other ignition sources, and elevated temperatures. Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.  
**Incompatible Materials:** Water-reactive materials, Acids, Metals, Metal Salts, Oxidizing materials, Peroxides, Strong reducing agents, Strong oxidizing agents  
**Hazardous Polymerization:** Will not occur

## Section 11

## Toxicity Data

**Routes of Entry:** Inhalation, ingestion, eye or skin contact.  
**Symptoms (Acute):** Gastrointestinal,  
**Delayed Effects:** Listed by NTP, IARC as causing cancer.

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Formaldehyde	50-00-0	Oral LD50 Mouse 42 mg/kg Oral LD50 Mouse 385 mg/kg	Dermal LD50 Rabbit 270 UL/KG	INHALATION LC50 Mouse 505 MG/M3
Methanol	67-56-1	Oral LD50 Mouse 7300 mg/kg		INHALATION LC50 Rat 64000 ppm
Sodium Phosphate, Dibasic, Anhydrous	7558-79-4	Oral LD50 Rat 17000 mg/kg		
Sodium Phosphate, Monobasic, Anhydrous (CAS # 7558-80-7) 100%	7558-80-7	Oral LD50 Rat 8290 mg/kg		

### Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Formaldehyde	50-00-0	Listed	Listed	Listed
Methanol	67-56-1	Not listed	Not listed	Not listed
Sodium Phosphate, Dibasic, Anhydrous	7558-79-4	Not listed	Not listed	Not listed

### Chronic Effects:

**Mutagenicity:** No evidence of a mutagenic effect.  
**Teratogenicity:** No evidence of a teratogenic effect (birth defect).  
**Sensitization:** Evidence of a sensitization effect.  
**Reproductive:** No evidence of negative reproductive effects.  
**Target Organ Effects:**  
**Acute:** Eyes, Skin, Respiratory system  
**Chronic:** Respiratory system, Eyes, Skin

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## Section 12

## Ecological Data

**Overview:** Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.

**Mobility:** No data

**Persistence:** Evaporation into atmosphere, dissolved in water. , Biodegradation

**Bioaccumulation:** Bioconcentration is not expected to occur.

**Degradability:** Biodegrades quickly.

**Other Adverse Effects:** Material has microbiocidal properties.

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Formaldehyde	50-00-0	96 HR LC50 BRACHYDANIO RERIO 41 MG/L [STATIC] 96 HR LC50 LEPOMIS MACROCHIRUS 1510 µG/L [STATIC] 48 HR LC50 DAPHNIA MAGNA 2 MG/L
Methanol	67-56-1	96 HR LC50 PIMEPHALES PROMELAS > 100 MG/L [STATIC]
Sodium Phosphate, Dibasic, Anhydrous	7558-79-4	

## Section 13

## Disposal Information

**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

**Waste Disposal Code(s):** Not Determined

## Section 14

## Transport Information

<b>Ground - DOT Proper Shipping Name:</b> Combustible Liquid, n.o.s (formaldehyde, methanol), NA1993, PG III	<b>Air - IATA Proper Shipping Name:</b> Combustible Liquid, n.o.s (formaldehyde, methanol), NA1993, PG III
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## Section 15

## Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Formaldehyde	50-00-0	Formaldehyde	100 lb RQ	100 lb final RQ; 45.4 kg final RQ	500 lb TPQ	No
Methanol	67-56-1	Methanol	No	5000 lb final RQ; 2270 kg final RQ	No	No
Sodium Phosphate, Dibasic, Anhydrous	7558-79-4	No	5000 lb RQ	5000 lb final RQ; (2270 kg)	No	No

**California Prop 65:** WARNING: This product contains a chemical known to the state of California to cause cancer, birth defects or other reproductive harm.

## Section 16

## Additional Information

Revised: 05/29/2015

Replaces: 05/18/2015

Printed: 05-29-2015

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health