

Safety Data Sheet

Revision Date Feb-16-2018

OSHA format Revision Number 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier Product name

Formaldehyde Solution

Other means of identification	
Product Code(s)	5128
UN-No	1198
Synonyms	Formalin ;

Recommended use of the chemical and restrictions on use Recommended Use Use as a laboratory reag

Use as a laboratory reagent. Industrial (not for food or food contact use). Laboratory chemicals. Research and Development.

Details of the supplier of the safety data sheet

Manufacturer Address LaMotte Company, Inc. 802 Washington Avenue P.O. Box 329 Chestertown, MD 21620 USA T 410-778-3100 F 410-778-9748

Emergency telephone numbers

(CHEM-TEL):USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Physical hazards Flammable Liquids.	Category 3

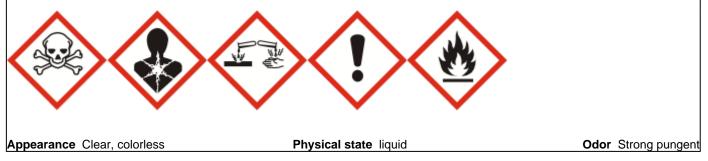
EMERGENCY OVERVIEW

DANGER

Hazard statements

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer. Causes damage to organs. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.

FLAMMABLE LIQUID AND VAPOR.



Precautionary Statements - Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Take precautionary measures against static discharge. Do not breathe dusts or mists. Use personal protective equipment as required. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace.

Response: Immediately call a poison center or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor/physician if you feel unwell. Wash contaminated clothing before reuse. IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water. If skin irritation or rash occurs: Get medical advice/attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Immediately call a poison center or doctor/physician. Rinse mouth. Do NOT induce vomiting.

In case of fire: Use CO2, dry chemical, or foam for extinction

Storage:

Store locked up. Store in well-ventilated place. Store in a closed container.

Disposal:

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

Other Hazards

Toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

3. COMPOSITION/INFORMATION ON INGREDIENTS*

Synonyms	Formalin ;.		
Chemical name	CAS No	Weight-%	
Methyl alcohol	67-56-1	<20	
Formaldehyde	50-00-0	37	
	4. FIRST AID MEASURES		
First Aid Measures			
General advice	Do not get in eyes, on skin, or on clothing. Consul to the doctor in attendance.	It a physician. Show this safety data sheet	
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if applicable, and continue flushing. Seek immediate medical attention/advice.		
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove material from skin immediately. Take off contaminated clothing and wash before reuse. Seek immediate medical attention/advice.		
Inhalation	Call a physician immediately. Remove to fresh air	. If breathing is difficult, give oxygen.	
Ingestion	Call a physician or poison control center immediately. Rinse mouth with water and afterwards drink plenty of water or milk. Give activated charcoal. DO NOT induce unless directed to do so by a physician or poison control center. Rinse mouth. If spontaneous vomiting occurs, place the victim's head below knee level.		
Self-protection of the first aider	r Use personal protective equipment. Do not use mouth-to-mouth method if victim in inhaled the substance; give artificial respiration with the aid of a pocket mask equip a one-way valve or other proper respiratory medical device.		

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Dry chemical, CO₂, water spray or alcohol-resistant foam.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Vapors may travel to source of ignition and flash back. May be ignited by heat, sparks or flames.

Hazardous combustion products

Carbon oxides.

Explosion data

Containers may explode when heated. Contact with nitrates or other oxidizers may cause an explosion. May explode from heat or contamination.

Sensitivity to Static Discharge

May be ignited by friction, heat, sparks or flames

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Ensure adequate ventilation. Remove all sources of ignition. See section 8. If you have not donned special protective clothing approved for this material, do not expose yourself to any risk of this material touching you. Wear respiratory protection. Avoid contact with skin, eyes, and inhalation of vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas.
Other Information	Keep combustibles (wood, paper, oil, etc) away from spilled material. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Ventilate the area. Wear personal protective equipment.
Environmental precautions	See Section 12 for additional Ecological Information. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Should not be released into the environment. Do not contaminate water when disposing of equipment washwater. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Keep out of waterways.
Methods and material for containm	ent and cleaning up
Methods for containment	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Do not flush to sewer. Dispose according to federal, state, and local regulations. Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Dike far ahead of liquid spill for later disposal.
Methods for cleaning up	After cleaning, flush away traces with water. Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use personal protective equipment. Prevent product and washings from entering drains, sewers or surface water due to high toxicity to aquatic organisms. Use non-sparking tools and equipment. Minimize the amount spilled and supress resultant vapors. Clean contaminated surface thoroughly. Take precautionary measures against static discharges. Never return spills in original containers for re-use. Dispose of as hazardous waste in compliance with local and national regulations.
	7. HANDLING AND STORAGE
Precautions for safe handling	
Handling	Handle in accordance with good industrial hygiene and safety practice. Prevent contact with skin, eves, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using

Handle in accordance with good industrial hygiene and safety practice. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not breathe mist/vapors/spray. Wear personal protective equipment. Avoid shock and friction. In case of insufficient ventilation, wear suitable respiratory equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use explosion-proof equipment. Use spark-proof tools and explosion-proof equipment. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof.

Conditions for safe storage, including any incompatibilities

Storage:Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from
incompatible materials. Keep away from heat and sources of ignition. Keep away from
oxidizing agents. Keep out of the reach of children. Store locked up. Keep cool and protect
from sunlight. Do not store near combustible materials. Do not flush into surface water or
sanitary sewer system. Keep in an area equipped with sprinklers. Keep from freezing.
Separate from acids and alkalis.

Incompatible Products

Strong oxidizing agents. Alkalis. Inorganic acids. anhydrides. Acids. Protect from light.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Methyl alcohol	STEL: 250 ppm	TWA: 200 ppm	IDLH: 6000 ppm
67-56-1	TWA: 200 ppm	TWA: 260 mg/m ³	TWA: 200 ppm
	S*	(vacated) TWA: 200 ppm	TWA: 260 mg/m ³
		(vacated) TWA: 260 mg/m ³	STEL: 250 ppm
		(vacated) STEL: 250 ppm	STEL: 325 mg/m ³
		(vacated) STEL: 325 mg/m ³	-
		(vacated) S*	
Formaldehyde	Ceiling: 0.3 ppm	TWA: 0.75 ppm	IDLH: 20 ppm
50-00-0		(vacated) TWA: 3 ppm unless	Ceiling: 0.1 ppm 15 min
		specified in 1910.1048	TWA: 0.016 ppm
		(vacated) STEL: 10 ppm 30 min	
		unless specified in 1910.1048	
		(vacated) Ceiling: 5 ppm unless	
		specified in 1910.1048	
		STEL: 2 ppm see 29 CFR	
		1910.1048	

Appropriate engineering controls

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing should not be allowed out of the workplace.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Wear safety glasses with side shields (or goggles). Maintain eye wash and quick drench shower facilities in work area.
Skin and body protection	Wear protective gloves/clothing. Nitrile rubber. Gloves & Lab Coat.
Respiratory protection	Use only with adequate ventilation. Handle in an enclosing hood with exhaust ventilation. Breathing apparatus with filter.
Hygiene Measures	Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with eyes, skin and clothing. Wash hands before breaks and immediately after handling the product. Do not breathe vapors/dust. Use only with

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Appearance Color	liquid Clear, colorless Colorless	Odor Odor threshold	Strong pungent 0.8-1 ppm
Property	Values	Remarks • Method	
pH Melting point / freezing point Boiling point / boiling range Flash point Evaporation rate Flammability (solid, gas) Flammability Limit in Air Upper flammability limit: Lower flammability limit: Vapor pressure	2.8-4.0 -15 °C / 5 °F 96 °C / 204.8 °F Not Applicable 60 °C / 140 °F No information available 73 7 No information available	(based on .?)	

Vapor density Specific gravity Water solubility Solubility in other solvents Partition coefficient	1.04 1.08 Miscible with water Soluble in alcohol and acetone 0.4	@ 20°C (Air=1) for SDA (3A) Ethyl Alcohol (Water = 1)	
Autoignition temperature Decomposition temperature Kinematic viscosity Dynamic viscosity Explosive properties Oxidizing properties	377 °C / 710.6 °F No information available No information available No information available No information available No information available	са	
Other Information			
Softening point Molecular weight VOC Content (%) Density Bulk density	No information available 30.03 No information available 1.08 No information available		
	10. STABILITY AND REA	ACTIVITY	
Stability		se and storage. Risk of explosion by shock, friction, fire	
Hazardous Reactions	or other sources of ignition. Reacts explosively with nitrogen dioxide at ca. 180°C (356°F).		

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong oxidizing agents. Alkalis. Inorganic acids. anhydrides. Acids. Protect from light.

Hazardous decomposition products May produce the following when heated to decomposition:. Carbon oxides (COx). Formaldehyde. Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Toxic by inhalation. May cause irritation of respiratory tract. May be fatal if inhaled.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness.
Skin contact	Toxic in contact with skin. Contact causes severe skin irritation and possible burns.
Ingestion	Toxic if swallowed. Ingestion may cause irritation to mucous membranes. Ingestion causes
-	burns of the upper digestive and respiratory tract.

Component identification

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Methyl alcohol	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit)	= 64000 ppm (Rat) 4 h = 22500
67-56-1			ppm (Rat)8h
Formaldehyde	= 100 mg/kg (Rat)	= 270 mg/kg (Rabbit)	= 0.578 mg/L (Rat) 4 h
50-00-0			_ , ,

Information on toxicologi	ical effects					
Skin corrosion/irritation	Causes burn	Causes burns. Irritating to skin.				
Serious eye damage/eye	irritation Risk of seriou	Risk of serious damage to eyes.				
Irritation	Irritating to ey	es, respiratory system and	d skin. Repeated exposure	may cause skin dryness		
	or cracking.	or cracking. May cause irritation to mucous membranes and respiratory tract.				
Corrosivity	Causes seve	Causes severe burns. Risk of serious damage to eyes. Causes serious eye irritation.				
Sensitization	May cause a	May cause an allergic skin reaction.				
Carcinogenicity	The table bel	The table below indicates whether each agency has listed any ingredient as a carcinogen.				
	May cause cancer.					
Chemical name	ACGIH	, , , , , , , , , , , , , , , , , , , ,				
Methyl alcohol	Not Established	Not Established	Not Established	Not Established		

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67-56-1					
Formaldehyde	A2	Group 1	Known	Х	
50-00-0					
ACGIH (American Conf	erence of Governmen	al Industrial Hygienists)			
A2 - Suspected Human (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
IARC (International Age		Cancer)			
Group 1 - Carcinogenic t					
NTP (National Toxicolo					
		l to be a Human Carcinogen			
	afety and Health Admi	nistration of the US Department o	of Labor)		
X - Present	– – – – – – – – – – – – – – – – – – –				
Reproductive toxicity		is or contains a chemical which	h is a known or suspected	reproductive hazard.	
Developmental toxic		se harm to the unborn child.			
Teratogenic	May ca	se harm to the unborn child.			
STOT - single exposure	May ca	May cause disorder and damage to the: Target Organs, Respiratory System.			
STOT - repeated exposu	re Causes	Causes damage to organs through prolonged or repeated exposure. May cause disorder			
	and dar	hage to the: central nervous sys	stem, Eyes.		
Chronic toxicity	Prolong	Prolonged exposure may cause chronic effects. Repeated contact may cause allergic			
	reaction	s in very susceptible persons. S	Substances known to be m	utagenic to man.	
Target organ effects	liver, Ce	ntral Nervous System (CNS), F	Respiratory System, Nasal	Cavities, Eyes, Skin,	
0 0	digestive system, Reproductive System, Mucous membrane.				
	5		-		
ATEmix (oral)	179.00	mg/kg			
ATEmix (dermal)	499.00				
ATEmix (inhalation-c		0 0			

12. ECOLOGICAL INFORMATION

<u>Ecotoxicity</u> Toxic to aquatic life with long lasting effects

Unknown Aquatic Toxicity 44 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Methyl alcohol 67-56-1	Not Established	13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h	Not Established
		Pimephales promelas mg/L LC50 static	
Formaldehyde 50-00-0	Not Established	0.032 - 0.226: 96 h Oncorhynchus mykiss mL/L LC50 flow-through 100 - 136: 96 h Oncorhynchus mykiss mg/L LC50 static 22.6 - 25.7: 96 h Pimephales promelas mg/L LC50 flow-through 23.2 - 29.7: 96 h Pimephales promelas mg/L LC50 static 1510: 96 h Lepomis macrochirus µg/L LC50 static 41: 96 h Brachydanio rerio mg/L LC50 static	Daphnia magna mg/L LC50

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

For .? :.

Mobility

No information available.

Chemical name	Log Pow
Methyl alcohol 67-56-1	-0.77
Formaldehyde 50-00-0	0.35

13. DISPOSAL CONSIDERATIONS

Dispose of waste product or used containers according to local regulations. Should not be released into the environment. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local laws. The use of licensed waste hauler and disposal contractors is advised.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number

D002 - Corrosive waste

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methyl alcohol	Not Established	Included in waste stream:	Not Established	U154
67-56-1		F039		
Formaldehyde	U122	Included in waste streams:	Not Established	U122
50-00-0		K009, K010, K038, K040,		
		K156, K157		

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Methyl alcohol 67-56-1	Not Established	Not Established	Not Established	Not Established
Formaldehyde 50-00-0	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Methyl alcohol	Toxic
67-56-1	Ignitable
Formaldehyde	Toxic
50-00-0	Ignitable

14. TRANSPORT INFORMATION

DOT Proper shipping name UN-No Proper shipping name Hazard Class Subsidiary class Packing group Reportable Quantity (RQ) Special Provisions	FORMALDEHYDE SOLUTIONS, FLAMMABLE 1198 FORMALDEHYDE SOLUTIONS, FLAMMABLE 3 8 III 100 Lbs B1, IB3, T4, TP1
TDG	Not regulated
<u>MEX</u>	Not regulated
ICAO	Not regulated
IATA UN-No Proper shipping name	1198 FORMALDEHYDE SOLUTIONS, FLAMMABLE

Hazard Class Subsidiary class Packing group ERG Code	3 8 III 3Ci
IMDG/IMO UN-No Proper shipping name Hazard Class Subsidiary class Packing group EmS No.	1198 FORMALDEHYDE, SOLUTIONS, FLAMMABLE 3 8 III F-E, S-C
<u>RID</u>	Not regulated
ADR	Not regulated
ADN	Not regulated

15. REGULATORY INFORMATION

International Inventories	
TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Methyl alcohol	1.0
67-56-1	
Formaldehyde	0.1
50-00-0	
SARA 311/312 Hazard Categories	
Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

		Chemical name	CWA - Reportable	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous
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Hazards N/A

	Quantities			Substances
Methyl alcohol 67-56-1	Not Established	Not Established	Not Established	Not Established
Formaldehyde 50-00-0	100 lb	Not Established	Not Established	Х

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
Methyl alcohol	5000 lb	Not Established	RQ 5000 lb final RQ
67-56-1 Formaldehyde	100 lb	100 lb	RQ 2270 kg final RQ RQ 100 lb final RQ
50-00-0			RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Chemical name	California Proposition 65
Methyl alcohol 67-56-1	Developmental
Formaldehyde 50-00-0	Carcinogen

U.S. State Right-to-Know Regulations

E	Chemical name	New Jersey	Massachusetts	Pennsylvania
	Methyl alcohol 67-56-1	Х	X	X
Γ	Formaldehyde 50-00-0	Х	X	Х

CDCC (Consumer Draduet Cofety Commission) Cresially Devulated Cybeteness

16. OTHER INFORMATION							
	50-00-0		2				
Formaldehyde			Strong sensitizer, 16 CFR 1500.13				
	67-56-1						
Methyl alcohol			Special labeling, 16 CFR 1500.14				
		0.	(, , , , , , , , , , , , , , , , , , ,	tances			
Chemical name		CP	CPSC (Consumer Product Safety Commission) - Specially Regulated				

<u>NFPA</u>

Flammability 2

Stability 1



Issuing Date Revision Date Reason for revision Disclaimer

Regulatory Affairs Department Nov-30-2017 Feb-16-2018 SDS sections updated 15

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet