10% Neutral Buffered Formalin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Identifier

Product form: Mixture

Product name: 10% Neutral Buffered Formalin

Product code: J0552, J0552A, J0552B, J0552C

Synonyms: Formalin, 10% NBF

Intended Use Of The Product

Tissue Fixation. For professional use only.

Name, Address, And Telephone Of The Responsible Party

Jorgensen Laboratories
1450 N. Van Buren Avenue
Loveland, CO 80538
800-525-5614
www.jorvet.com

Emergency Telephone Number : CHEMTREC 800-424-9300 (USA & Canada)
Emergency number CHEMTREC 703-527-3887 (International)
Non-transport 972-436-1010 (USA)

SECTION 2: HAZARDS IDENTIFICATION

Classification Of The Substance Or Mixture

GHS-US classification

Skin Irritation 2	H315
Eye Damage 1	H318
Skin Sensitizer 1	H317
Carcinogenicity 2	H351
Specific Target Organ Toxicity Single Exposure 1	H370

Label Elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS05 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H315 - 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 (GHS-US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P233 - Keep container tightly closed.
P260 - Do not breathe mist, spray, vapours, gas.
P264 - Wash hands, forearms, and exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P310 - Immediately call a POISON CENTER or doctor.
P321 - Specific treatment (see Section 4).
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 appropriate media for extinction.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other Hazards Not available

Unknown acute toxicity (GHS US) Not available

SECTION 3: COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Mixture

Name	Product Identifier	% (w/w)	GHS-US classification
Formaldehyde	(CAS No.) 50-00-0	3 - 4	Acute Toxicity 3 (Oral), H301 Acute Toxicity 3 (Dermal), H311 Acute Toxicity 3 (Inhalation: gas), H331 Skin Corrosion 1B, H314 Skin Sensitizer 1, H317 Carcinogenicity 2, H351
Methyl alcohol	(CAS No.) 67-56-1	1 - 1.5	Flammable Liquid 2, H225 Acute Toxicity 3 (Oral), H301 Acute Toxicity 3 (Dermal), H311 Acute Toxicity 3 (Inhalation), H331 Specific Target Organ Toxicity Single Exposure 1, H370

Full text of H-phrases: see section 16

Additional information: Methyl alcohol acts as an inhibitor of formaldehyde and prevents polymerization.

SECTION 4: FIRST AID MEASURES

Description Of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash contaminated clothing before reuse. Wash with plenty of soap and water. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms And Effects Both Acute and Delayed

General: Causes serious eye damage. Causes skin irritation.

Inhalation: Harmful if inhaled.

Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Eye Contact: Causes serious eye damage.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic symptoms: May cause cancer. Causes damage to organs. May produce an allergic reaction.

Indication Of Any Immediate Medical Attention And Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2).

Unsuitable extinguishing media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From The Substance Or Mixture

Fire hazard: Not considered flammable but will burn at high temperatures (>93°C, 199.9°F).

Explosion hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Strong oxidizing agents, caustics, strong alkalies, isocyanates, anhydrides, oxides, and inorganic acids. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers.

Advice For Firefighters

Precautionary measures fire: Exercise caution when fighting any chemical fire.

Firefighting instructions: Use water spray or fog for cooling exposed containers.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO_2). Formaldehyde. Oxygen from the air can oxidize formaldehyde to formic acid, especially when heated. Formic acid is corrosive.

Reference To Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment And Emergency Procedures

General measures: Do NOT breathe (vapor, mist, gas). Do not get in eyes, on skin, or on clothing.

For Non-Emergency Personnel

Protective equipment: Use appropriate personal protection equipment (PPE).

Emergency procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective equipment: Use appropriate personal protection equipment (PPE).

Emergency procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods And Material For Containment And Cleaning Up

For containment: Absorb and/or contain spill with inert material, then place in suitable container.

Methods for cleaning up: Clear up spills immediately and dispose of waste safely.

Reference To Other Sections

See heading 8, exposure controls and personal protection.

SECTION 7: HANDLING AND STORAGE

Precautions For Safe Handling

Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

Storage conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Store locked up.

Incompatible materials: Strong oxidizing agents, caustics, strong alkalies, isocyanates, anhydrides, oxides, and inorganic acids. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers.

Conditions For Safe Storage, Including Any Incompatibilities

Specific End Use(s)

Tissue fixation. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Formaldehyde (50-00-0)		
USA ACGIH	ACGIH Ceiling (ppm)	0.3 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	0.75 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	2 ppm (see 29 CFR 1910.1048)
USA NIOSH	NIOSH REL (TWA) (ppm)	0.016 ppm
USA NIOSH	NIOSH REL (ceiling) (ppm)	0.1 ppm
USA IDLH	US IDLH (ppm)	20 ppm
Alberta	OEL Ceiling (mg/m³)	1.3 mg/m³
Alberta	OEL Ceiling (ppm)	1 ppm
Alberta	OEL TWA (mg/m³)	0.9 mg/m³
Alberta	OEL TWA (ppm)	0.75 ppm
British Columbia	OEL Ceiling (ppm)	1 ppm
British Columbia	OEL TWA (ppm)	0.3 ppm
Manitoba	OEL Ceiling (ppm)	0.3 ppm
New Brunswick	OEL STEL (ppm)	1.5 ppm
New Brunswick	OEL TWA (ppm)	0.5 ppm
Newfoundland & Labrador	OEL Ceiling (ppm)	0.3 ppm
Nova Scotia	OEL Ceiling (ppm)	0.3 ppm
Nunavut	OEL Ceiling (mg/m³)	2.4 mg/m³
Nunavut	OEL Ceiling (ppm)	2 ppm
Northwest Territories	OEL Ceiling (mg/m³)	2.4 mg/m³
Northwest Territories	OEL Ceiling (ppm)	2 ppm
Ontario	OEL Ceiling (ppm)	1.5 ppm
Ontario	OEL STEL (ppm)	1.0 ppm
Prince Edward Island	OEL Ceiling (ppm)	0.3 ppm
Québec	PLAFOND (mg/m³)	3 mg/m³
Québec	PLAFOND (ppm)	2 ppm
Saskatchewan	OEL Ceiling (ppm)	0.3 ppm
Yukon	OEL Ceiling (mg/m³)	3 mg/m³
Yukon	OEL Ceiling (ppm)	2 ppm

Methyl alcohol (67-56-1)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	260 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	200 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m³)	325 mg/m³
USA NIOSH	NIOSH REL (STEL) (ppm)	250 ppm
USA IDLH	US IDLH (ppm)	6000 ppm

Alberta	OEL STEL (mg/m³)	328 mg/m³
Alberta	OEL STEL (ppm)	250 ppm
Alberta	OEL TWA (mg/m³)	262 mg/m³
Alberta	OEL TWA (ppm)	200 ppm
British Columbia	OEL STEL (ppm)	250 ppm
British Columbia	OEL TWA (ppm)	200 ppm
Manitoba	OEL STEL (ppm)	250 ppm
Manitoba	OEL TWA (ppm)	200 ppm
New Brunswick	OEL STEL (mg/m³)	328 mg/m³
New Brunswick	OEL STEL (ppm)	250 ppm
New Brunswick	OEL TWA (mg/m³)	262 mg/m³
New Brunswick	OEL TWA (ppm)	200 ppm
Newfoundland & Labrador	OEL STEL (ppm)	250 ppm
Newfoundland & Labrador	OEL TWA (ppm)	200 ppm
Nova Scotia	OEL STEL (ppm)	250 ppm
Nova Scotia	OEL TWA (ppm)	200 ppm
Nunavut	OEL STEL (mg/m³)	328 mg/m³
Nunavut	OEL STEL (ppm)	250 ppm
Nunavut	OEL TWA (mg/m³)	262 mg/m³
Nunavut	OEL TWA (ppm)	200 ppm
Northwest Territories	OEL STEL (mg/m³)	328 mg/m³
Northwest Territories	OEL STEL (ppm)	250 ppm
Northwest Territories	OEL TWA (mg/m³)	262 mg/m³
Northwest Territories	OEL TWA (ppm)	200 ppm
Ontario	OEL STEL (ppm)	250 ppm
Ontario	OEL TWA (ppm)	200 ppm
Prince Edward Island	OEL STEL (ppm)	250 ppm
Prince Edward Island	OEL TWA (ppm)	200 ppm
Québec	VECD (mg/m³)	328 mg/m³
Québec	VECD (ppm)	250 ppm
Québec	VEMP (mg/m³)	262 mg/m³
Québec	VEMP (ppm)	200 ppm
Saskatchewan	OEL STEL (ppm)	250 ppm
Saskatchewan	OEL TWA (ppm)	200 ppm
Yukon	OEL STEL (mg/m³)	310 mg/m³
Yukon	OEL STEL (ppm)	250 ppm
Yukon	OEL TWA (mg/m³)	260 mg/m³
Yukon	OEL TWA (ppm)	200 ppm

Exposure Controls

Appropriate engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide sufficient ventilation to keep vapors below permissible exposure limit. Alarm detectors should be used when toxic s gases may be released. Ensure all national/local regulations are observed.

Personal protective equipment: Safety glasses. Face shield. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.

Materials for protective clothing: Material impervious to formaldehyde is needed if the employee handles formaldehyde solutions of 1 percent or more. Other employees may also require protective clothing or equipment to prevent dermatitis.

Hand protection: Wear chemically resistant protective gloves.

Eye protection: Chemical safety goggles.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: Use NIOSH-approved full facepiece negative pressure respirators equipped with approved cartridges or canisters within the use limitations of these devices. (Present restrictions on cartridges and canisters do not permit them to be used for a full workshift.) In all other situations, use positive pressure respirators such as the positive-pressure air purifying respirator or the self-contained breathing apparatus (SCBA). If you use a negative pressure respirator, your employer must provide you with fit testing of the respirator at least once a year.

Other information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information On Basic Physical And Chemical Properties

Physical state	:	Liquid
Appearance	:	Clear, colorless liquid
Odour	:	Formaldehyde
Odour threshold	:	0.1 ppm formaldehyde
pH	:	6.7 - 7.2
Relative evaporation rate (butylacetate=1)	:	Not available
Freezing point	:	- 92 °C (-133 °F)
Boiling point	:	100 °C (212 °F)
Flash point	:	93.3 °C (199.9 °F)
Auto-ignition temperature	:	Not available
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower flammable limit, Upper flammable Limit	:	Not available
Vapour pressure	:	Not available
Relative vapour density at 20 °C	:	1.04 (air = 1)
Relative density/Specific gravity	:	1.02
Solubility	:	Soluble in water
Log Pow, Log Kow	:	Not available
Viscosity (kinematic, dynamic)	:	Not available
Explosion data - sensitivity to mechanical impact	:	Not available
Explosion data - sensitivity to static discharge	:	Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity Strong oxidizing agents, caustics, strong alkalies, isocyanates, anhydrides, oxides, and inorganic acids. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers.

Chemical Stability Formaldehyde solutions may self-polymerize to form paraformaldehyde which precipitates.

Possibility Of Hazardous Reactions Hazardous polymerization will not occur.

Conditions To Avoid Direct sunlight. Extremely high or low temperatures.

Incompatible Materials Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products Carbon oxides (CO, CO_2). Formaldehyde. Oxygen from the air can oxidize formaldehyde to formic acid, especially when heated. Formic acid is corrosive.

SECTION 11: TOXICOLOGICAL INFORMATION

Information On Toxicological Effects - Product

Acute toxicity : Not classified

LD50 and LC50 Data: Not available

Skin corrosion/irritation: Causes skin irritation (pH: 6.7 - 7.2).

Serious eye damage/irritation: Causes serious eye damage (pH: 6.7 - 7.2).
Respiratory or skin sensitisation: May cause an allergic skin reaction.
Germ cell mutagenicity: Not classified
Teratogenicity: Teratogenic effects have occurred in experimental animals.
Carcinogenicity: Suspected of causing cancer.
Specific target organ toxicity (repeated exposure): Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity (single exposure): Causes damage to organs.
Aspiration hazard: Not classified
Symptoms/injuries after inhalation: Harmful if inhaled.
Symptoms/injuries after skin contact: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/injuries after eye contact: Causes serious eye damage.
Symptoms/injuries after ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic symptoms: May cause cancer. Causes damage to organs. May produce an allergic reaction.

Information On Toxicological Effects - Ingredient(s)

LD50 and LC50 Data

Formaldehyde (50-00-0)	
LD50 oral rat	800 mg/kg
ATE (gases)	250 ppm/4h

Methyl alcohol (67-56-1)	
LC50 inhalation rat (mg/l)	83.2 mg/l (Exposure time: 4 h)
ATE (oral)	100 mg/kg
ATE (dermal)	300 mg/kg

Carcinogenicity

Formaldehyde (50-00-0)	
IARC group	1
National Toxicity Program (NTP) Status	Known human carcinogen

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Formaldehyde (50-00-0)	
LC50 fish 1	22.6 - 25.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	1510 µg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	11.3 - 18 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Methyl alcohol (67-56-1)	
LC50 fish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Persistence And Degradability

10% Neutral Buffered Formalin	
Persistence and degradability	Not available.

Bioaccumulative Potential

10% Neutral Buffered Formalin	
Bioaccumulative potential	Not available.

Formaldehyde (50-00-0)	
Log Pow	0.35 (at 25 °C)

Methyl alcohol (67-56-1)	
BCF fish 1	< 10
Log Pow	-0.77

Mobility In Soil Not available

Other Adverse Effects

Other information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/DOT/TDG

UN Number Not regulated for transport

UN Proper Shipping Name Not regulated for transport

Transport by sea Not applicable

Air transport Not applicable

SECTION 15: REGULATORY INFORMATION

US Federal regulations

Formaldehyde (50-00-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 302 (Specific toxic chemical listings) Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	0.1 %

Methyl alcohol (67-56-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard Fire hazard
SARA Section 313 - Emission Reporting	1.0 %

US State regulations

Formaldehyde (50-00-0)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Methyl alcohol (67-56-1)	
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.

Formaldehyde (50-00-0)
U.S. - California - SCAQMD - Toxic Air Contaminants - Carcinogens
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - SDAPCD - Toxic Air Contaminants - Carcinogenic Impacts Must Be Calculated
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities

U.S. - Delaware - Accidental Release Prevention Regulations - Toxic Endpoints
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - Acceptable Maximum Peak Above the Ceiling Concentration for an 8-Hour Shift
U.S. - Idaho - Occupational Exposure Limits - Ceilings
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Maine - Chemicals of High Concern
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - STELs
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Groundwater Health Risk Limits
U.S. - Minnesota - Hazardous Substance List
U.S. - New Hampshire - Prohibited Volatile Organic Compounds
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New Jersey - Water Quality - Ground Water Quality Criteria
U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)
U.S. - New York - Occupational Exposure Limits - Ceilings
U.S. - New York - Priority Chemical Avoidance List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour
U.S. - North Dakota - Air Pollutants - Unit Risk Factors
U.S. - North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - STELs
U.S. - Oregon - Permissible Exposure Limits - TWAs

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - STELs
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Hazardous Waste - Hazardous Constituents
U.S. - Vermont - Permissible Exposure Limits - Ceilings
U.S. - Vermont - Permissible Exposure Limits - STELs
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Dangerous Waste - Dangerous Waste Constituents List
U.S. - Washington - Dangerous Waste - Discarded Chemical Products List
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - West Virginia - Air Quality - Toxic Air Pollutant Emission Limits
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet
U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals

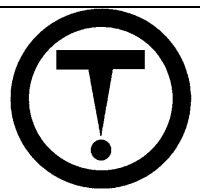
Methyl alcohol (67-56-1)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Connecticut - Volatile Substances
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - Skin Designations
U.S. - Hawaii - Occupational Exposure Limits - STELs
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Maine - Chemicals of High Concern
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2

U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - Skin Designations
U.S. - Michigan - Occupational Exposure Limits - STELs
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Minnesota - Groundwater Health Risk Limits
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - Skin Designations
U.S. - Minnesota - Permissible Exposure Limits - STELs
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - Water Quality - Ground Water Quality Criteria
U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - Skin Designations
U.S. - Tennessee - Occupational Exposure Limits - STELs
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - Skin Designations
U.S. - Vermont - Permissible Exposure Limits - STELs
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Dangerous Waste - Discarded Chemical Products List
U.S. - Washington - Permissible Exposure Limits - Skin Designations
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Canadian regulations

10% Neutral Buffered Formalin	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects



Formaldehyde (50-00-0)	
Listed on the Canadian DSL (Domestic Sustances List) inventory. Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Methyl alcohol (67-56-1)	
Listed on the Canadian DSL (Domestic Sustances List) inventory. Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION

Indication of changes : 08/19/2015

Data sources : For OSHA substance technical guidelines for formalin, refer to 29 CFR 1910.1048 Appendix A.

Other information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

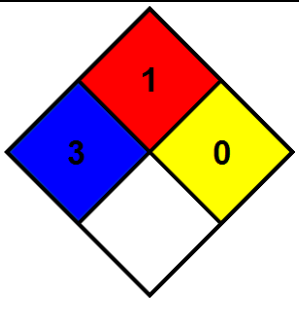
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Carc. 2	Carcinogenicity Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 2	Flammable liquids Category 2
Skin Corr. 1B	skin corrosion/irritation Category 1B
Skin Irrit. 2	skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitisation Category 1
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H331	Toxic if inhaled
H351	Suspected of causing cancer

H370	Causes damage to organs

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 1 Slight Hazard

Physical : 0 Minimal Hazard

Party Responsible For The Preparation Of This Document:

Globe Scientific Inc.

Phone Number: 800-394-4562

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS