

Revision Date 28-Feb-2023

Version 1

1. IDENTIFICATION

Product Name 70% Alcoholic Formalin
Product Code FX0091
Recommended Use For laboratory, scientific, R&D or manufacturing use.
Company Cancer Diagnostics, Inc.
 116 Page Point Circle
 Durham, NC 27703
 Tel. (877) 846-5393
Emergency Telephone Call CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Gases)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 1

Label elements

Signal word

Danger

Hazard statements

Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer. Causes damage to organs. Highly flammable liquid and vapor.



Precautionary Statements - Prevention

Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear

protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Take precautionary measures against static discharge. Keep container tightly closed.

Precautionary Statements - Response

IF exposed: Call a POISON CENTER or doctor/physician.

IF IN EYES. Immediately flush with plenty of water for at least 15 minutes, separating eyelids occasionally. Remove contact lenses if present. Get immediate medical attention.

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.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

In case of fire: Use CO₂, dry chemical, or foam for extinction. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Prevent entry into waterways, sewers, basements or confined areas.

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Ethyl alcohol	64-17-5	55-65
Methyl alcohol	67-56-1	4-6
Isopropyl alcohol	67-63-0	3-5
Formaldehyde	50-00-0	3.5-4.0

4. FIRST AID MEASURES

Description of first aid measures

General advice	Use first aid treatment according to the nature of the injury.
Eye contact	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin contact	Wash thoroughly with soap and water while removing contaminated garments. Get medical attention if irritation develops.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
Ingestion	Rinse mouth and drink several glasses of water. Contact a physician or poison control center if symptoms develop. Do not induce vomiting unless directed to do so by medical personnel.
Self-protection of the first aider	Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms and effects, both acute and delayed

Symptoms Causes skin, eye and respiratory tract irritation. If swallowed, causes GI disturbances.

May cause allergic skin reaction. If swallowed or inhaled, causes irritation. Intoxicant. May cause headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma, and death.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Small Fire

Dry chemical or CO₂.

Large Fire

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use CO₂, dry chemical, or foam to extinguish.

Specific hazards arising from the chemical

No Data Available.

Protective equipment and precautions for firefighters

Firefighters should wear self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

NFPA

Health hazards 3

Flammability 2

Instability 0

Physical and Chemical Properties -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Prevent spreading of vapors through sewers, ventilation systems and confined areas. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Dike far ahead of spill; use dry sand to contain the flow of material. 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).

Methods for cleaning up

Pick up and transfer to properly labeled containers. Absorb spill with inert material, scoop up and containerize for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains. Take precautionary measures against static discharges. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Keep away from open flames, hot surfaces and sources of ignition.
Ensure adequate ventilation, especially in confined areas
Take precautionary measures against static discharges. Use only non-sparking tools

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Store in an approved Flammable Liquids storage area. Protect from sunlight. Keep away from heat. Store in accordance with local regulations.

Incompatible materials

Strong oxidizing agents. Strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethyl alcohol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³
Methyl alcohol 67-56-1	STEL: 250 ppm TWA: 200 ppm Skin	TWA: 200 ppm TWA: 260 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m ³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m ³ (vacated) Skin	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³
Isopropyl alcohol 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m ³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m ³	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³
Formaldehyde 50-00-0	STEL: 0.3 ppm TWA: 0.1 ppm	TWA: 0.75 ppm (vacated) TWA: 3 ppm unless specified in 1910.1048 (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	IDLH: 20 ppm Ceiling: 0.1 ppm 15 min TWA: 0.016 ppm

Appropriate engineering controls**Engineering Controls**

Emergency showers, eyewash stations, ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear protective gloves and protective clothing.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	Clear, colorless liquid
Odor	Strong formaldehyde odor
Odor threshold	No Data Available
pH	7.0
Melting point / freezing point	No Data Available
Boiling point / boiling range	No Data Available
Flash point	20 C - 25 C
Evaporation rate	No Data Available
Flammability (solid, gas)	No Data Available
Flammability Limit in Air	
Upper flammability limit:	No Data Available
Lower flammability limit:	No Data Available

Vapor pressure	No Data Available
Vapor density	No Data Available
Relative density	No Data Available
Water solubility	No Data Available
Solubility in other solvents	No Data Available
Partition coefficient	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Kinematic viscosity	No Data Available

10. STABILITY AND REACTIVITY

Thermal decomposition can lead to release of toxic/corrosive gases and vapors

Stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to avoid Extremes of temperature and direct sunlight.

Incompatible materials Strong oxidizing agents. Strong acids.

Hazardous Decomposition Products None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Formaldehyde is highly irritating to the upper respiratory tract and eyes. Concentrations of 0.5 to 2.0 ppm may irritate the eyes, nose, and throat of some individuals. Concentrations of 3 to 5 ppm also cause tearing of the eyes and are intolerable to some persons. A concentration of 100 ppm is immediately dangerous to life and health. Deaths from accidental exposure to high concentrations of formaldehyde have been reported.
Eye contact	Formaldehyde solutions splashed in the eye can cause injuries ranging from transient discomfort to severe, permanent corneal clouding and loss of vision. The severity of the effect depends on the concentration of formaldehyde in the solution and whether or not the eyes are flushed with water immediately after the accident.
Skin contact	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Irritating to skin.
Ingestion	Liquids containing 10 to 40 percent formaldehyde cause severe irritation and inflammation of the mouth, throat, and stomach. Severe stomach pains will follow ingestion with possible loss of consciousness and death. Ingestion of dilute formaldehyde solutions (0.03-0.04 percent) may cause discomfort in the stomach and pharynx. Toxic if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethyl alcohol 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h
Methyl alcohol 67-56-1	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit) = 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h
Isopropyl alcohol 67-63-0	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m ³ (Rat) 4 h
Formaldehyde 50-00-0	= 100 mg/kg (Rat)	= 270 mg/kg (Rabbit)	= 0.578 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No Data Available.
Germ cell mutagenicity	No Data Available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ethyl alcohol 64-17-5	-	100: 96 h Pimephales promelas mg/L LC50 static 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50 9268 - 14221: 48 h Daphnia magna mg/L LC50
Methyl alcohol 67-56-1	-	19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static	-
Isopropyl alcohol 67-63-0	1000: 96 h Desmodemus subspicatus mg/L EC50 1000: 72 h Desmodemus subspicatus mg/L EC50	9640: 96 h Pimephales promelas mg/L LC50 flow-through 1400000: 96 h Lepomis macrochirus µg/L LC50 11130: 96 h Pimephales promelas mg/L LC50 static	13299: 48 h Daphnia magna mg/L EC50
Formaldehyde 50-00-0	-	0.032 - 0.226: 96 h Oncorhynchus mykiss mL/L LC50 flow-through 23.2 - 29.7: 96 h Pimephales promelas mg/L LC50 static 22.6 - 25.7: 96 h Pimephales promelas mg/L LC50 flow-through 41: 96 h Brachydanio rerio mg/L LC50 static 1510: 96 h Lepomis macrochirus µg/L LC50 static 100 - 136: 96 h Oncorhynchus mykiss mg/L LC50 static	2: 48 h Daphnia magna mg/L LC50 11.3 - 18: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability

No Data Available.

Bioaccumulation

No Data Available.

Chemical Name	Partition coefficient
Ethyl alcohol 64-17-5	-0.32
Methyl alcohol 67-56-1	-0.77
Isopropyl alcohol 67-63-0	0.05
Formaldehyde 50-00-0	0.35

Other adverse effects

No Data Available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and

regulations.

Contaminated packaging

Do not reuse container. Emptied containers may contain residue. Continue to follow label warnings after container is emptied.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methyl alcohol 67-56-1	-	Included in waste stream: F039	-	U154
Formaldehyde 50-00-0	U122	Included in waste streams: K009, K010, K038, K040, K156, K157	-	U122

Chemical Name	California Hazardous Waste Status
Ethyl alcohol 64-17-5	Toxic Ignitable
Methyl alcohol 67-56-1	Toxic Ignitable
Isopropyl alcohol 67-63-0	Toxic Ignitable
Formaldehyde 50-00-0	Toxic Ignitable

14. TRANSPORT INFORMATION

Transportation information is provided as a general reference only and may not be applicable in all situations. This information applies to non-bulk shipments only. Per 49 CFR §173.22, it is the shipper's responsibility to ensure that all materials are properly packaged, classified and labeled prior to shipment.

DOT

UN/ID no. UN1170
Proper shipping name Ethanol Solution
Hazard Class 3
Packing Group II

IATA

Not regulated
UN/ID no. UN1993
Proper shipping name Flammable liquids, n.o.s.
Hazard Class 3
Packing Group II

15. REGULATORY INFORMATION

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 - 67-56-1	1.0
Isopropyl alcohol - 67-63-0	1.0
Formaldehyde - 50-00-0	0.1

SARA 311/312 Hazard Categories

Acute health hazard No
Chronic Health Hazard No
Fire hazard No
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 Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Formaldehyde 50-00-0	100 lb	-	-	X

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	Reportable Quantity (RQ)
Methyl alcohol 67-56-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Formaldehyde 50-00-0	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Ethyl alcohol - 64-17-5	Carcinogen Developmental
Methyl alcohol - 67-56-1	Developmental
Formaldehyde - 50-00-0	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ethyl alcohol 64-17-5	X	X	X
Methyl alcohol 67-56-1	X	X	X
Isopropyl alcohol 67-63-0	X	X	X
Formaldehyde 50-00-0	X	X	X

16. OTHER INFORMATION

Prepared By
Revision Date

CDI Regulatory Affairs (Email: compliance@cancerdiagnostics.com)
28-Feb-2023

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End of Safety Data Sheet