

**JFC Solution****1. Identification****Product Name:** JFC Solution**Item #:** 51408C, 51408G**Web SDS:****Synonyms:** N/A**Recommended Use:** Tissue processing.**Restrictions on Use:** Not a beverage**Manufacturer:**Milestone Medical
6475 Technology Avenue
Suite F
Kalamazoo, MI 49009
866-995-5300**In Case of Emergency:**Chemtec US 1-800-424-9300
Chemtec International 703-527-3887**2. Hazards Identification****OSHA Hazard Classification(s):**

Skin Irritation - Category 2

Eye Irritation - Category 2A

Specific Target Organ Toxicity (single exposure) - Category 1

Specific Target Organ Toxicity (repeated exposure) - Category 2

Flammable Liquids - Category 2

Signal Word: Danger**Hazard Statement(s):** Causes skin irritation. Causes serious eye irritation. Causes damage to organs (respiratory system, lungs, kidneys). May cause damage to organs (respiratory system, central nervous system, liver, blood) through prolonged or repeated exposure. Highly flammable liquid and vapor.**Pictogram(s):****Precautionary Statement(s):** Prevention: Wash body thoroughly after handling. Wear protective gloves. Wear eye protection, face protection. Do not breathe dust, vapors. Do not eat, drink or smoke when using this product. Keep away from heat sources and open flame. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting and equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Response: If on skin: Wash with plenty of water. Specific treatment (see first aid section on this label). If skin irritation or rash occurs: Get medical attention. Take off all contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing If eye irritation persists: Get medical attention. If exposed or concerned: Call a doctor. Call a doctor if you feel unwell. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. In case of fire: Use water, dry chemical, CO2 or foam to extinguish.

Storage: Store locked up. Store in a well-ventilated place. Keep cool.

Disposal: Dispose of contents/container in accordance with local regulations.

Descriptions of Hazards not otherwise classified: N/A**Percent of mixture with unknown acute toxicity:** N/A**3. Composition and Information on Ingredients**

Chemical Name	Common Name	CAS #	Concentration %
Denatured Ethyl Alcohol	Ethanol	64-17-5	Trade Secret
Isopropyl Alcohol	Isopropanol	67-63-0	Trade Secret
Methyl Alcohol	Methanol	67-56-1	Trade Secret
Methyl Isobutyl Ketone	Hexone	108-10-1	Trade Secret
N-Octane		111-65-9	Trade Secret



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Isopropanol		67-63-0	Trade Secret
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4. First Aid Measures

Eye Contact: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing and wash before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.

Inhalation: Vapor Harmful. Remove to fresh air; give artificial respiration if breathing has stopped. Get medical advice/attention if you feel unwell.

Ingestion: Poison. May be fatal or cause blindness if swallowed. If exposed: Call a doctor. Cannot be made nonpoisonous. Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.

Symptoms: Irritation eyes, nose, throat; headache, dizziness, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic effects.

Recommendations for immediate medical care/special treatment: Get medical advice/attention if you feel unwell.

5. Fire- Fighting Measures

Extinguishing Media: Dry chemical, carbon dioxide, alcohol foam. Use water spray to cool fire-exposed containers and disperse vapors.

Fire Hazards (Chemical): OSHA classified Flammable Liquid. Vapors are flammable.

Special Protective Equipment: Fire fighters should use self-contained breathing apparatus and protective clothing.

Precautions for Firefighters: Carbon monoxide and unidentified organic compounds may be formed during combustion. Vapors can travel distances to ignition source and flash back. Cool fire exposed containers with water. Fine mist or spray may be flammable at temperatures below the flash point. When heated above the flash point this material emits flammable vapors which, when mixed with air, can burn or be explosive.

6. Accidental Release Measures

Emergency Procedures: Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.

Protective Equipment: See section 8

Environmental Precautions: Prevent release to the environment by using barriers.

Containment and Clean-Up Procedures: Use barriers to prevent spreading. Collect spill in container. Call waste authorities.

7. Handling and Storage

Handling: Do not breathe vapors. Do not eat, drink or smoke when using this product. Keep away from heat, sparks, open flames, hot surfaces. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Storage: Store locked up. Store in a well-ventilated place. Keep cool. Store away from sources of ignition, heat and open flame.

8. Exposure Controls/Personal Protection**OSHA Permissible Exposure Limits (PELs):**

Reagent	CAS #	OSHA PEL TWA
Ethyl Alcohol	64-17-5	1000ppm
Isopropyl Alcohol	67-63-0	400ppm
Methyl Alcohol	67-56-1	200ppm
Methyl Isobutyl Ketone	108-10-1	100ppm (410 mg/m3)
N-Octane	111-65-9	500ppm

ACGIH Threshold Limit Values (TLVs):

Reagent	CAS #	ACGIH PEL TLV	ACGIH STEL



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Ethyl Alcohol	64-17-5	1000ppm	
Isopropyl Alcohol	67-63-0	400ppm (983 mg/m ³)	500ppm (1230 mg/m ³)
Methyl Alcohol	67-56-1	200ppm (262 mg/m ³)	250ppm (328 mg/m ³)
Methyl Isobutyl Ketone	108-10-1	50ppm	75ppm
N-Octane	111-65-9	300ppm	

Engineering Controls: Use in a well ventilated area to prevent exposure. Maintain eyewash fountain and quick-drench facilities in work areas.

Personal Protective Measures: Wear gloves, lab coat, eye protection and impervious footwear. Contact lenses should not be worn when working with this material.

Special PPE Requirements: If ventilation hood not available wear respirator.

9. Physical and Chemical Properties Section

Appearance: Colorless, Colorless Liquid

Molecular Weight: N/A

Molecular Formula: N/A

pH: N/A

Boiling Point and Boiling Range: N/A

Melting Point/Freezing Point: N/A

Flash Point: N/A

Specific Gravity/Relative Density: N/A

Odor: Characteristic alcohol odor

Odor Threshold: N/A

Color: Colorless

Flammability (solid/gas): Emits flammable vapors, flammable liquid

Vapor Density: N/A

Upper/Lower flammability or explosive limits: N/A

Vapor Pressure: N/A

Evaporation Rate: N/A

Partition Coefficient: n-octanol/water: N/A

Viscosity: N/A

Auto-ignition temperature: N/A

Solubility: Miscible in water

Decomposition Temperature: N/A

10. Stability and Reactivity

Reactivity:

Chemical Stability: Stable

Conditions of Stability/Instability: Instable under heat

Stabilizers needed: None

Safety issue indicated by appearance change: N/A

Other: N/A

Hazardous Reactions: N/A

Hazardous Polymerization: Does not occur

Conditions to avoid: Heat, open flame.

Classes of Incompatible Materials: Strong oxidizers, potassium dioxide, bromine pentafluoride, acetyl bromide, acetyl chloride, platinum, sodium

Hazardous Decomposition Products: Thermal-oxidation degradation can produce oxides of carbon. Toxic gases and vapors (I.e. Carbon monoxide) may be released in a fire.



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11. Toxicological Information

Likely Routes of Exposure

Eyes: Irritation.

Skin: Irritation.

Inhalation: Dizziness, headache, nausea, narcosis

Ingestion: May cause blindness, nausea, damage to gastrointestinal tract, liver, kidneys and cardiovascular system. Carcinogenic if ingested repeatedly over time (IARC List 1-Ethanol in alcoholic beverages)

Signs or Symptoms of Exposure: Irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic effects

Effects from short term exposure (delayed, immediate, chronic): May cause blindness, nausea, damage to gastrointestinal tract, liver, kidneys and cardiovascular system

Acute Toxicity (Numerical Measures): Isopropyl Alcohol: LD50 (oral, rat)=5046mg/kg; LD50(oral, mouse)=3600 mg/kg; LC50 (rat)= 12,000ppm

Ethyl Alcohol: LD50(oral,mouse)=3450 mg/kg; LC50(inhalation,mouse)=39000 mg/m³/4H

n-Octane: LC50(inhalation, rat)=118 gm/m³/4H, LC50(inhalation, rat)=25260 ppm/4H

Carcinogenicity (NTP, IARC, OSHA): Not listed as a carcinogen. *Note: Ethanol in alcoholic beverages is listed as IARC List 1 Carcinogenic to humans.

12. Ecological Information

Ecotoxicity: Toxicity to fish: mortality LC50 - *Oryzias latipes*-0.42mg/l-96h

Toxicity to daphnia and other aquatic invertebrates: Immobilization EC50 - *Daphnia magna* (water flea)-0.38mg/l-48h

Toxicity to algae: Growth inhibition NOEC-*Pseudokirchneriella subcapitata*-5.8mg/l-72h

Persistence and degradability: N/A

Bioaccumulation Potential (octanol-water partition coefficient, BCF): N/A

Mobility in the soil: N/A

Adverse Environmental Effects: Very toxic to aquatic life.

13. Disposal Considerations

Recommended Disposal Containers: Check with your local waste authorities*

Recommended Disposal Methods: Do not dispose of in drains, check with your local waste authorities.*

Physical/Chemical Properties affecting Disposal: See section 2 and section 9 applicable information.*

Special Precautions for Landfill and Incineration Activities: Check with your local waste authorities.*

Waste Stream: Consult your local or regional authorities.*

14. Transport Information

UN Number: UN1170

UN Proper Shipping Name: ETHANOL

Transport Hazard Class(es): 3

Packing Group Number: II

Environmental Hazards (IMDG code):

Marine Pollutant: No

Transport in Bulk (IBC Code): N/A

Special Transport Precautions: N/A

15. Regulatory Information

OSHA:

DOT:

EPA:

CPSC:



Safety Data Sheet

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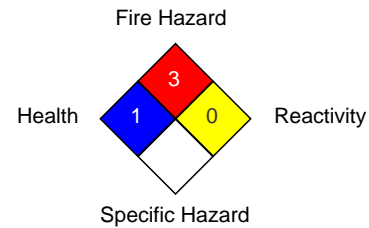
16. Other Information

Revision Date: 05/14/2020

NFPA

Health	1
Fire Hazard	3
Reactivity	0
Specific Hazard	

National Fire Protection Association (USA) NFPA



HMIS

Health	1
Flammability	3
Physical Hazard	0
Personal Protection	

Hazardous Material Information System HMIS

Health	1
Flammability	3
Physical Hazard	0
Personal Protection	

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