Material Safety Data Sheet

TRINITY FLUIDS

Section 1 - Chemical Product and Company Identification

Product Identification

Name: Arterial Fluid
Number: AF-28
Intended Use: Embalming Fluid

Manufacture: Trinity Fluids, LLC
Address: 41158 Koppernick Rd.
Canton, MI 48187
Phone: 810 441-8006
Emergency: 800 255-3924 (Chemtrec)

Section 2 - Hazard Identification

Emergency overview

DANGER!
FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE ANDSKIN IRRITATION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE.
PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION.
CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.
Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use.

Potential acute health effects

Inhalation: May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose,mouth and throat.

Ingestion: May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.

Skin: Harmful in contact with skin. Irritating to skin.

Eyes: Irritating to eyes.

Over-exposure signs/symptoms:
Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by overexposure: Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).
See toxicological information (Section 11)

Section 3 - Composition/Information on Ingredients Identification

Component	CAS#	Percent (wt)
Formaldehyde	50-00-0	28.10
Methanol	67-56-1	11.48
Phenol	108-95-2	0.34
Ethylene Glycol	107-21-1	4.00

Section 4 - First Aid Measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye Contact:	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
Skin Contact:	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
Inhalation:	Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
Ingestion:	If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.
Note to physician:	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5 - Fire Fighting Measures

Flammability of the product:	Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
Extinguishing media	
Suitable:	Use dry chemical, CO_2, water spray (fog) or foam.
Not suitable:	Do not use water jet.
Special exposure hazards:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Hazardous combustion products:	Decomposition products may include the following materials: carbon oxides
Special protective: equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6 - Accidental Release Measures

Personal precautions:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
Large Spill:	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Use spark-proof tools and explosion-proof equipment. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
Small Spill:	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7 - Handling and Storage

Handling: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Do not swallow. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Vapors are heavier than air and may spread along floors. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Storage: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store above the following temperature: 120F / 49C.

Section 8 - Exposure Controls/Personel Protection

Ingredient	OSHA TWA	OSHA STEL	ACGIH TWA	ACGIH STEL
Formaldehyde	0.75 ppm	2 ppm	0.1 ppm	0.3 ppm
Methanol	200 ppm	250 ppm	200 ppm	250 ppm
Phenol	5 ppm	19 mg/m3	5 ppm	19 mg/m3
Ethylene Glycol	Not Established	Not Established	100 mg/m3	Not Established

FORMALDEHYDE

Irritation Data:

150 ug/3 days intermittent skin-human mild; 2 mg/24 hours skin-rabbit severe; 540 mg open skin-rabbit mild; 50 mg/24 hours skin-rabbit moderate; 4 ppm/5 minutes eye-human; 1 ppm/6 minutes nonstandard exposure eye-human mild; 750 ug/24 hour eye-rabbit severe; 750 ug eye-rabbit severe; 10 mg eye-rabbit severe.

Toxicity Data:

17 mg/m3/30 minutes inhalation-human TCLO; 300 ug/m3 inhalation-man TCLO; 203 mg/m3 inhalation-rat LC50; 400mg/m3/2hours inhalation -mouse LC50; 400 mg/m3/2 hours inhalation-cat LCLO; 92 mg/m3 inhalation-mammal LC50; 270 mg/kg skin-rabbit LD50; 108 mg/kg oral-woman LDLO; 100 mg/kg oral-rat LD50; 42 mg/kg oral-mouse LD50; 260 mg/kg oral-guinea pig LD50; 420 mg/kg subcutaneous-rat LD50; 300 mg/kg subcutaneous-mouse LD50; 350 mg/kg subcutaneous-dog LDLO; 240 mg/kg subcutaneous-rabbit LDLO; 87mg/kg intravenous-rat LD50; 48 mg/kg intravenous-rabbit LDLO; 30 mg/kg intravenous-cat LDLO; 70 mg/kg intravenous-dog LDLO; 16 mg/kg intraperitoneal-mouse LDLO; 477 mg/kg unreported-man LDLO; 800 mg/kg parenteral-frog LDLO; mutagenic data (RTECS); reproductive effects data (RETCS); tumorigenic data (RTECS).

Carcinogenic Status:

OSHA carcinogen; anticipated human carcinogen (NTP); human limited evidence, animal sufficient evidence (IARC group-2A). Epidemiological studies and case reports indicate an excess occurrence of a number of cancers, but evidence for involvement for formaldehyde is strongest for nasal and nasopharyngeal cancer. A significant incidence of squamous cell carcinoma of the nasal cavity was induced in rats exposed in formaldehyde gas.

Local Effects: Corrosive - inhalation, skin , eye, ingestion.

Acute Toxicity Level: Highly toxic by inhalation, toxic by dermal absorption and ingestion.

Target Effects: Sensitizer - respiratory, dermal. Poisoning may also affect the kidneys.

At Risk from Exposure: Persons with asthma, chronic skin disease or preexisting lung disease.

Key to abbreviations

A = Acceptable Maximum Peak
ACGIH = American Conference of Governmental Industrial Hygienists.
C = Ceiling Limit
F = Fume
IPEL = Internal Permissible Exposure Limit
OSHA = Occupational Safety and Health Administration
R = Respirable
Z = OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances
S = Potential skin absorption
SR = Respiratory sensitization
SS = Skin sensitization
STEL = Short term Exposure limit values
TD = Total dust
TLV = Threshold Limit Value
TWA = Time Weighted Average

Section 8 - Exposure Controls/Personel Protection

Recommended monitoring: procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures:

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes:

Safety glasses with side shields.

Hands:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Respiratory:

If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.When there is a risk of ignition from static electricity, wear anti-static protective clothing.For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Environmental exposure: controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 9 - Physical and Chemical Properties

Physical state:	Liquid	**Vapor Density:**	Heavier than air
Flash point:	84°F	**Volatility:**	95.0%
Explosion limits:	6.0 LEL 36 UEL	**Evaporation rate:**	less than n-butyl acetate
Odor:	Pungent	**% Solid. (w/w):**	5.0%
pH:	6.8-7.2		
Boiling/condensation point:	190°F		
Specific gravity:	Greater than 1.0		
Appearance:	Red Liquid		

Section 10 - Stability and Reactivity

Stability:	Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid:	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid:	Reactive or incompatible with the following materials:,oxidizing materials,strong acids, strong alkalis.
Hazardous decomposition: products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization:	Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11 - Toxicological Information

This material has not been tested for toxicological effects.

Section 12 - Ecological Information

This material has not been tested for Ecoogidacl effects.

Section 13 - Disposal Considerations

Waste disposal	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to **Section 7: HANDLING AND STORAGE** and **Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION** for additional handling information and protection of employees. Section 6. Accidental release measures

Section 14 - Transport Information

Regulation	UN number	Proper shipping name	Classes	PG*	Additional information
UN	1198	Formaldehyde Solutions, Flammable	3	III	
IMDG	1198	Formaldehyde Solutions, Flammable	3	III	
DOT	1198	Formaldehyde Solutions, Flammable	3	III	Reportable quantity See Section 15

PG* : Packing group

Section 15 - Regulatroy Information

United States inventory (TSCA 8b) : All components are listed or exempted.
Canada inventory (DSL) ; All components are listed or exempted.

California Prop. 65
WARNING: This product contains a chemical known to the State of California to cause cancer.

Canada
WHMIS (Canada) : Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

Mexico
Flammability: 2 Health: 3 Reactivity: 0

U.S. Federal regulations :
SARA TITLE III (Superfund Amendment & Reauthorization Act):
Section 302 & 304 - Extremely Hazardous Substance List (40 CFR 355) - Listed
Section 311 - Hazardous Categorization (40 CFR) 370) - acute, Chronic & Fire
Section 313 - Toxic Chemicals Listing (40 CFR 372.65) - Listed as a toxic chemical

CERCLA (Comprehensive Environmental Response, Compensation & Liability Act):
Section 102(A) - Hazardous Substances (40 CFR 302.4) - Listed Reportable Quantity - 1,000 lbs
Section 101(14) - Reportable Quantity - 1,000 lbs

SARA 313
Supplier notification

Chemical name	CAS number	Concentration
Formaldehyde	50-00-0	28.10
Methanol	67-56-1	11.48
Phenol	108-95-2	0.34

Section 16 - Other Information

Hazardous Material Information System (U.S.A.)

Health: 4 * Flammability: 2 Physical hazards: 0
(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health: 4 Flammability: 2 Instability: 0

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning this product, and to recommend precautionary measures for the storage and handling of the product. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.