



DI-FORM 40
CPF=40^A

**Lowered Exposure Dialdehyde Based
Extreme Firming Arterial Fluid**

DI-FORM 40 is a lowered exposure glutaraldehyde arterial fluid which contains Entrone for achieving penetration to the point of complete saturation and AD-P for control of aldehyde action to obtain better diffusion and improvement of cosmetic effect. In addition, there are advanced buffers, modifiers and control agents to further enhance the embalming action of DI-FORM 40. This results in an extreme firming action and fluid distribution. DI-FORM 40 has a superior sanitizing action due to the glutaraldehyde present. DI-FORM 40 is recommended for all extreme embalming situations. DI-FORM 40 is recommended in cases of advanced decomposition, extreme delayed embalming or tissue gas..

PH-A ¹	BETA CO-INJECT	DI-FORM ^B		ALOE FACTOR ³	TRISAN ⁴ ADD FOR EXTRA FIRMNESS	ALOE FACTOR ⁵ ADD TO RESTORE MOISTURE CONTENT
		DEFINITE FIRMNESS	EXTREME ² FIRMNESS			
3-4	8-10	10-12	14-16	1-2	2-4	4-8
<p align="center"> → → MIX IN THIS ORDER → → OUNCES PER GALLON </p>						

Notes:

- A - A value assigned to all Champion fluids ranking them on the basis of preservative ability using recommended dilutions in normal cases. The Champion Preservative Factor is not index but can equal it in certain fluids. It is derived from the total chemical composition of each fluid and results of extensive field research. The Champion Preservative Factor can be used by the embalmer to predict the reactivity, preservative value and firming action of Champion fluids.
- B - Add Champion Coloro Dyes as needed to achieve desired cosmetic effect.
- 1 - For proper water conditioning and pH balance to maximize fluid efficiency (if using soft water - reduce amount to 2-3 ozs.)
- 2 - These are recommended amounts for typical cases. Additional amounts of fluid will be needed for cases with higher aldehyde demand such as cancer, renal and liver diseases with their complications, institutional cases and other wasting diseases, delayed embalming cases, edema and bodies subjected to extensive drug therapy. For tissue gas use at the rate of 16 oz./gallon.
- 3 - Humectant to control aldehyde action and prevent dehydration during embalming. Use in all non-lanolin based fluids. Do not use in cases of moisture retention (edema, etc.).
- 4 - For increased aldehyde action of fluid with improved rigidity and preservation. (For tissue gas use at the rate of 8 oz./gallon.)
- 5 - For maximum rehydration of tissues. Restores moisture in cases of dehydration or emaciation. Use in last 1 to 1-1/2 gallons of solution with intermittent or restricted drainage.

**BEFORE USING, READ SAFETY DATA SHEET.
FOR PROFESSIONAL EMBALMING USE ONLY.**

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : DI-FORM 40

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Arterial Embalming Fluid

Use of the substance/mixture : For professional use only

1.3. Details of the supplier of the safety data sheet

THE CHAMPION COMPANY
400 Harrison Street
Springfield, Ohio 45505

Telephone No. (937) 324-5681

1.4. Emergency telephone number

Emergency number : CHEMTREC (800) 424-9300 (Spill, Leak, Fire, Exposure or Accident)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 4	H227
Acute Tox. 4 (Oral)	H302
Acute Tox. 3 (Dermal)	H311
Acute Tox. 4 (Inhalation:dust,mist)	H332
Skin Irrit. 2	H315
Eye Dam. 1	H318
Resp. Sens. 1	H334
Skin Sens. 1	H317
Muta. 2	H341
Carc. 1A	H350
STOT SE 3	H335
STOT SE 2	H371
STOT RE 2	H373

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H227 - Combustible liquid
H302+H332 - Harmful if swallowed or if inhaled
H311 - Toxic in contact with skin
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H371 - May cause damage to organs
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking
P260 - Do not breathe dust, fume, mist, spray, vapors
P261 - Avoid breathing dust, fume, mist, spray, vapors

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

P264 - Wash hands thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P271 - Use only in a well-ventilated area
 P272 - Contaminated work clothing must not be allowed out of the workplace
 P280 - Wear protective clothing, protective gloves, eye protection, face protection
 P285 - In case of inadequate ventilation wear respiratory protection
 P301+P312 - If swallowed: Call a POISON CENTER
 P302+P352 - If on skin: Wash with plenty of water
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
 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 attention
 P310 - Immediately call a doctor
 P312 - Call a doctor, a POISON CENTER
 P314 - Get medical attention if you feel unwell
 P330 - Rinse mouth
 P332+P313 - If skin irritation occurs: Get medical attention
 P333+P313 - If skin irritation or rash occurs: Get medical attention
 P342+P311 - If experiencing respiratory symptoms: Call a doctor
 P361 - Take off immediately all contaminated clothing
 P362 - Take off contaminated clothing and wash before reuse
 P362 - Take off contaminated clothing and wash before reuse
 P363 - Wash contaminated clothing before reuse
 P370+P378 - In case of fire: Use alcohol resistant foam, dry powder, carbon dioxide (CO₂) to extinguish
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed
 P403+P235 - Store in a well-ventilated place. Keep cool
 P405 - Store locked up
 P501 - Dispose of contents and container to comply with applicable local, state, national and international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Formaldehyde	(CAS No) 50-00-0	21	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H335
Isopropyl alcohol	(CAS No) 67-63-0	10 - 11	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Methyl alcohol	(CAS No) 67-56-1	≤ 7	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapor), H331 STOT SE 1, H370
Glutaraldehyde	(CAS No) 111-30-8	<5.5	Flam. Liq. 4, H227 Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Name	Product identifier	%	GHS-US classification
Phenol	(CAS No) 108-95-2	2	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Muta. 2, H341 STOT RE 2, H373
Boric acid, disodium salt, pentahydrate	(CAS No) 12179-04-3	<2	Repr. 1B, H360
Boric acid (H3BO3)	(CAS No) 10043-35-3	<1.5	Repr. 1B, H360

SECTION 4: First aid measures

4.1. Description of first aid measures

- 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).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Keep victim warm and rested. Seek medical attention immediately. If breathing stops, give artificial respiration. Transfer to hospital rapidly. Call a POISON CENTER.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Immediately call a doctor. Wash contaminated clothing before reuse. Get medical attention.
- First-aid measures after eye contact : In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. Seek medical attention immediately.
- First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Immediately call a POISON CENTER. Seek medical advice (show the label where possible). Do NOT induce vomiting. Give water or milk if the person is fully conscious.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : May cause damage to organs through prolonged or repeated exposure. Suspected of causing genetic defects. May cause damage to organs.
- Symptoms/injuries after inhalation : Harmful if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. Product contains phenol. Inhalation of phenol vapors can lead to damage of the bronchial system and pulmonary oedema. Systemic damage to kidneys, liver and heart as well as neuropsychiatric disturbances are produced. Excessive concentrations may cause nervous system depression, headache, and weakness leading to unconsciousness. Causes damage to liver through prolonged or repeated exposure if inhaled. Difficulty in breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer by inhalation. May cause respiratory irritation.
- Symptoms/injuries after skin contact : Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Contains phenol. Strong skin absorption as main danger of phenol poisoning at the workplace with paralysis of the central nervous system (with lethal consequences in severe cases) as well as liver and kidney damage. Phenol destroys the nerve endings in the skin. Therefore absence of pain does not necessarily mean the skin has been properly decontaminated.
- Symptoms/injuries after eye contact : Causes serious eye damage. Redness and pain. Impaired vision, watering of eyes, defects in the cornea. Burning sensation. Inflammation. Can cause blindness.
- Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Ingestion may cause nausea, vomiting and diarrhea. Swallowing can cause severe injury leading to death.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Alcohol resistant foam. Dry powder. Carbon dioxide (CO₂). Water spray. Sand.
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Combustible liquid.
- Explosion hazard : May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters

- Firefighting instructions : Prevent runoff from entering drains, sewers or waterways. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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|---------------------------------------|---|
| Protective equipment for firefighters | : Do not enter fire area without proper protective equipment, including respiratory protection. |
| Other information | : Combustible liquid. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Use water spray to cool unopened containers. Move undamaged containers from immediate hazard area if it can be done safely. Alcohols burn with a pale blue flame which may be extremely hard to see under normal lighting conditions. Personnel may be able to feel the heat of the fire without seeing flames. Extreme caution must be exercised in fighting alcohol fires. On burning: release of carbon monoxide - carbon dioxide. unburned hydrocarbons. Formaldehyde. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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| General measures | : Avoid breathing dust, fume, mist, spray, vapors. Stop leak if safe to do so. Avoid contact with skin, eyes and clothing. Eliminate all ignition sources if safe to do so. Use special care to avoid static electric charges. No naked lights. No smoking. |
|------------------|---|

6.1.1. For non-emergency personnel

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| Protective equipment | : Wear suitable protective clothing. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel. |

6.1.2. For emergency responders

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|----------------------|---|
| Protective equipment | : Equip cleanup crew with proper protection. Avoid breathing dust, fume, mist, spray, vapors. |
| Emergency procedures | : Ventilate area. |

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

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| Methods for cleaning up | : Wear proper protective equipment. Keep upwind of the spilled material and isolate exposure. Contain large spillage with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Gather the product and place it in a spare container that has been suitably labelled. Store away from other materials. Use appropriate container to avoid environmental contamination. Consult the appropriate authorities about waste disposal. Thoroughly wash the area with water after a spill or leak clean-up. Ensure all national and local regulations are observed. Eliminate all sources of ignition, avoid sparks, flames and do not smoke in risk area. |
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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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| Additional hazards when processed | : Keep away from heat, sparks, open flames, hot surfaces. - No smoking. Handle empty containers with care because residual vapors are flammable. |
| Precautions for safe handling | : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid contact with skin, eyes and clothing. Avoid breathing dust, fume, mist, spray, vapors. Work in a well-ventilated area. Before entering storage tanks and commencing any operation in a confined area check the atmosphere for oxygen content and flammability. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking. Keep away from clothing as well as other incompatible materials. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. |
| Hygiene measures | : Handle in accordance with good industrial hygiene and safety practices. Discard contaminated leather articles. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and 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. |

7.2. Conditions for safe storage, including any incompatibilities

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|--------------------|---|
| Technical measures | : A washing facility for eye and skin cleaning purposes should be present. Ensure adequate ventilation. Use explosion-proof electrical, ventilating, lighting, and equipment. Proper grounding procedures to avoid static electricity should be followed. |
| Storage conditions | : Protect containers against physical damage. Keep only in the original container in a cool, well ventilated place. Store away from direct sunlight or other heat sources. Keep locked up and out of reach of children. Keep in fireproof place. Keep container tightly closed. |

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

- Incompatible materials : Strong acids, bases. Oxidizing agents.
Heat and ignition sources : Store away from direct sunlight or other heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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/m ³)	260 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm
Phenol (108-95-2)		
USA ACGIH	ACGIH TWA (ppm)	5 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	19 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	5 ppm
Isopropyl alcohol (67-63-0)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	400 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	980 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm
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)
Glutaraldehyde (111-30-8)		
USA ACGIH	ACGIH Ceiling (ppm)	0.05 ppm (activated and inactivated)
Boric acid, disodium salt, pentahydrate (12179-04-3)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
USA ACGIH	ACGIH STEL (mg/m ³)	6 mg/m ³
Boric acid (H3BO3) (10043-35-3)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (inhalable fraction)
USA ACGIH	ACGIH STEL (mg/m ³)	6 mg/m ³ (inhalable fraction)

8.2. Exposure controls

- Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate ventilation. Monitoring the effectiveness of engineering control is recommended.
- Personal protective equipment : Avoid all unnecessary exposure. Wear protective clothing, protective gloves, eye protection/goggles, face protection. For certain operations, additional Personal Protection Equipment (PPE) may be required.
- Hand protection : Wear impermeable protective nitrile gloves. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
- Eye protection : Contact lenses should not be worn. Chemical goggles and face shields are required to prevent potential eye contact, irritation or injury.
- Skin and body protection : Long sleeved protective clothing. Overall. Rubber apron, boots. safety foot-wear.

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Respiratory protection	: In case of insufficient ventilation. Wear suitable respiratory equipment. Approved organic vapor respirator.
Environmental exposure controls	: Avoid discharge to the environment.
Other information	: Do not eat, drink or smoke during use. Do not breathe dust, fume, mist, spray, vapors. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Red
Odor	: Mild pleasant odor
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: 1
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 87.77 °C 190 °F)
Flash point	: 65.55 °C (>150 °F) (COC)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: 1
Relative density	: No data available
Density	: ≈ 0.988 Specific Gravity
Solubility	: Water: completely soluble
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 6.7 - 72 vol %

9.2. Other information

VOC content	: 13 % (Percent volatiles)
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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions. Unstable on exposure to heat. Combustible liquid. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

Oxidizing agents. Strong acids. strong bases.

10.6. Hazardous decomposition products

Formaldehyde. Fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Acute toxicity : Harmful if swallowed. Toxic in contact with skin. Harmful if inhaled.

Methyl alcohol (67-56-1)	
LC50 inhalation rat (mg/l)	130.7 mg/l/4h (lit. ECHA)
ATE US (oral)	100.00000000 mg/kg bodyweight
ATE US (dermal)	300.00000000 mg/kg bodyweight
ATE US (vapors)	3.00000000 mg/l/4h

Phenol (108-95-2)	
LD50 oral rat	317
LD50 dermal rat	525
LD50 dermal rabbit	630 mg/kg
ATE US (oral)	100.00000000 mg/kg bodyweight
ATE US (dermal)	630.00000000 mg/kg bodyweight
ATE US (gases)	700.00000000 ppmv/4h
ATE US (vapors)	3.00000000 mg/l/4h
ATE US (dust,mist)	0.50000000 mg/l/4h

Isopropyl alcohol (67-63-0)	
LD50 oral rat	4396 mg/kg
LD50 dermal rabbit	12800 mg/kg
LC50 inhalation rat (ppm)	16000 ppm (Exposure time: 8 h)
ATE US (oral)	4396.00000000 mg/kg bodyweight
ATE US (dermal)	12800.00000000 mg/kg bodyweight

Formaldehyde (50-00-0)	
LD50 oral rat	500 mg/kg
LD50 dermal rabbit	270 mg/kg
LC50 inhalation rat (mg/l)	0.578 mg/l/4h
ATE US (oral)	100.00000000 mg/kg bodyweight
ATE US (dermal)	270.00000000 mg/kg bodyweight
ATE US (gases)	700.00000000 ppmv/4h
ATE US (vapors)	0.57800000 mg/l/4h
ATE US (dust,mist)	0.57800000 mg/l/4h

Glutaraldehyde (111-30-8)	
LD50 oral rat	252 mg/kg
LD50 dermal rabbit	560 µl/kg
LC50 inhalation rat (mg/l)	0.1 mg/l/4h
ATE US (oral)	252.00000000 mg/kg bodyweight
ATE US (vapors)	0.10000000 mg/l/4h
ATE US (dust,mist)	0.10000000 mg/l/4h

Boric acid, disodium salt, pentahydrate (12179-04-3)	
LD50 oral rat	2403 mg/kg
ATE US (oral)	2403.00000000 mg/kg bodyweight

Boric acid (H3BO3) (10043-35-3)	
LD50 oral rat	2660 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 0.16 mg/l/4h
ATE US (oral)	2660.00000000 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.
 Serious eye damage/irritation : Causes serious eye damage.
 Respiratory or skin sensitisation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
 Germ cell mutagenicity : Suspected of causing genetic defects.
 Carcinogenicity : May cause cancer.

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Phenol (108-95-2)	
IARC group	3 - Not classifiable
Isopropyl alcohol (67-63-0)	
IARC group	3 - Not classifiable
Formaldehyde (50-00-0)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	2 - Known Human Carcinogens
Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure)	: May cause respiratory irritation. May cause damage to organs.
Specific target organ toxicity (repeated exposure)	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met.
Potential Adverse human health effects and symptoms	: Harmful in contact with skin. Harmful if inhaled. Toxic if swallowed. Based on available data, the classification criteria are not met. Harmful if swallowed. Toxic in contact with skin.
Symptoms/injuries after inhalation	: Harmful if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. Inhalation of phenol vapors can lead to damage of the bronchial system and pulmonary oedema. Systemic damage to kidneys, liver and heart as well as neuropsychiatric disturbances are produced. Excessive concentrations may cause nervous system depression, headache, and weakness leading to unconsciousness. Causes damage to liver through prolonged or repeated exposure if inhaled. Difficulty in breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer by inhalation. May cause respiratory irritation.
Symptoms/injuries after skin contact	: Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Strong skin absorption as main danger of phenol poisoning at the workplace with paralysis of the central nervous system (with lethal consequences in severe cases) as well as liver and kidney damage. Phenol destroys the nerve endings in the skin. Therefore absence of pain does not necessarily mean the skin has been properly decontaminated.
Symptoms/injuries after eye contact	: Causes serious eye damage. Redness and pain. Impaired vision, watering of eyes, defects in the cornea. Burning sensation. Inflammation. Can cause blindness.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Ingestion may cause nausea, vomiting and diarrhea. Swallowing can cause severe injury leading to death.

SECTION 12: Ecological information

12.1. Toxicity

Methyl alcohol (67-56-1)	
LC50 fishes 1	> 12700 mg/l 96 hours
EC50 Daphnia 1	> 10000 mg/l
Phenol (108-95-2)	
LC50 fishes 1	11.9 - 50.5 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	4.24 - 10.7 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	20.5 - 25.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	10.2 - 15.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Isopropyl alcohol (67-63-0)	
LC50 fishes 1	9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	13299 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Formaldehyde (50-00-0)	
LC50 fishes 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])

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Glutaraldehyde (111-30-8)	
LC50 fishes 1	7.8 - 22 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	14 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	2.6 - 4.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	0.56 - 1.0 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Boric acid (H3BO3) (10043-35-3)	
EC50 Daphnia 1	115 - 153 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

DI-FORM 40	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

DI-FORM 40	
Bioaccumulative potential	Not established.

Phenol (108-95-2)	
BCF fish 1	(no significant bioaccumulation)
Log Pow	1.47

Isopropyl alcohol (67-63-0)	
Log Pow	0.05 (at 25 °C)

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

Glutaraldehyde (111-30-8)	
Log Pow	0.22 (at 25 °C)

Boric acid (H3BO3) (10043-35-3)	
BCF fish 1	0
Log Pow	-0.757 (at 25 °C)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

- Effect on ozone layer : No additional information available
- Effect on the global warming : No additional information available
- Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste disposal recommendations : It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations. Dispose of contents and container to comply with applicable local, state, national and international regulation. Consult the appropriate authorities about waste disposal. Ensure all national and local regulations are observed. Do not pressurize, cut, weld, braze solder, drill, grind, or expose containers to flames, sparks, heat, or other potential ignition sources. Do not re-use empty containers. Dispose in a safe manner in accordance with local and national regulations.
- Additional information : Handle empty containers with care because residual vapors are flammable.
- Ecology - waste materials : Hazardous waste due to toxicity. Avoid release to the environment.

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN2922, Corrosive liquids, toxic, n.o.s. (Formaldehyde, Glutaraldehyde, Methanol), 8, PGIII, ltd.qty.
 Hazard labels (DOT) : 8 - Corrosive
 6.1 - Poison inhalation hazard



Packing group (DOT) : III - Minor Danger
 DOT Packaging Exceptions (49 CFR 173.xxx) : 154
 DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
 DOT Packaging Bulk (49 CFR 173.xxx) : 241
 DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
 DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L
 DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
 DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

DI-FORM 40	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	472 lb
Methyl alcohol (67-56-1)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	5000 lb
SARA Section 313 - Emission Reporting	1.0 %
Phenol (108-95-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Listed on United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 - 10000
SARA Section 313 - Emission Reporting	1.0 %
Isopropyl alcohol (67-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0 % (only if manufactured by the strong acid process, no supplier notification)

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Formaldehyde (50-00-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 313 - Emission Reporting	0.1 %

15.2. International regulations

CANADA

Phenol (108-95-2)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material

Isopropyl alcohol (67-63-0)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Formaldehyde (50-00-0)	
Listed on the Canadian DSL (Domestic Substances 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

Glutaraldehyde (111-30-8)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class E - Corrosive Material

Boric acid (H3BO3) (10043-35-3)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

EU-Regulations

Phenol (108-95-2)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

Isopropyl alcohol (67-63-0)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

Formaldehyde (50-00-0)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No additional information available

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

15.2.2. National regulations

Phenol (108-95-2)

Listed on the AICS (Australian Inventory of Chemical Substances)
 Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
 Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
 Listed on the Japanese ISHL (Industrial Safety and Health Law)
 Listed on the Korean ECL (Existing Chemicals List)
 Listed on NZIoC (New Zealand Inventory of Chemicals)
 Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
 Japanese Poisonous and Deleterious Substances Control Law
 Japanese Pollutant Release and Transfer Register Law (PRTR Law)
 Listed on the Canadian IDL (Ingredient Disclosure List)

Isopropyl alcohol (67-63-0)

Listed on the AICS (Australian Inventory of Chemical Substances)
 Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
 Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
 Listed on the Japanese ISHL (Industrial Safety and Health Law)
 Listed on the Korean ECL (Existing Chemicals List)
 Listed on NZIoC (New Zealand Inventory of Chemicals)
 Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
 Listed on the Canadian IDL (Ingredient Disclosure List)

Formaldehyde (50-00-0)

Listed on IARC (International Agency for Research on Cancer)
 Listed on the AICS (Australian Inventory of Chemical Substances)
 Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
 Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
 Listed on the Japanese ISHL (Industrial Safety and Health Law)
 Listed on the Korean ECL (Existing Chemicals List)
 Listed on NZIoC (New Zealand Inventory of Chemicals)
 Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
 Japanese Poisonous and Deleterious Substances Control Law
 Japanese Pollutant Release and Transfer Register Law (PRTR Law)
 Listed as carcinogen on NTP (National Toxicology Program)
 Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

No additional information available

Methyl alcohol (67-56-1)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
	Yes			

Formaldehyde (50-00-0)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes				

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4

DI-FORM 40

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Carc. 1A	Carcinogenicity, Category 1A
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 4	Flammable liquids Category 4
Muta. 2	Flammable liquids Category 1 flammable liquids Category 4
Repr. 1B	Reproductive toxicity Category 1B
Resp. Sens. 1	Sensitisation — Respiratory, category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 2	Specific target organ toxicity (single exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H227	Combustible liquid
H301	Toxic if swallowed
H302	Harmful 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
H319	Causes serious eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H370	Causes damage to organs
H371	May cause damage to organs
H373	May cause damage to organs through prolonged or repeated exposure

SDS US (GHS HazCom 2012)

HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur
 Flammability : 2 Moderate Hazard
 Physical : 0 Minimal Hazard

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