



Tri-San Power Factor is a member of the **Millennium/New Era** line of formaldehyde-free embalming chemicals. **Tri-San Power Factor** is Champion's premiere replacement for our legendary DI-SAN accessory/co-injection chemical. **Millennium/New Era Tri-San Power Factor** takes non-formaldehyde technology to a new horizon in embalming formulations. **Tri-San Power Factor** is a potentiated trialdehyde based high reactivity formulation that exceeds and broadens the reactivity of DI-SAN - Champion's original glutaraldehyde based embalming fluid additive. The unique combination of aldehydes in **Tri-San Power Factor** results in a maximum of synergy with an extremely high level of sanitation and disinfection in use. **Tri-San Power Factor** is used as a power factor additive to disinfect, sanitize, increase aldehyde action, increase penetration, increase reactivity and to maximally increase overall embalming action of arterial and cavity chemicals. The addition of **Tri-San Power Factor** to the injected arterial or cavity chemical results in a significant increase in embalming and rigidity of embalmed tissues.

DIRECTIONS

Tri-San Power Factor should be added at the rate of 1-3 ounces per gallon of arterial solution to increase penetration, sanitization, reactivity and firming action of the arterial solution. **Tri-San Power Factor** can be used in higher dilutions in extreme or difficult cases if conditions warrant (refer to arterial fluid product data sheets for circumstances and recommendations).

Tri-San Power Factor is also recommended as an additive to arterial and cavity chemicals in the case of highly infectious bodies due to its' superior disinfection and sanitization capabilities. The addition of 4-8 ounces of **Tri-San Power Factor** to any cavity fluid will maximize sanitization and disinfection and increase fluid action and rigidity of tissues. Read all label warnings and precautions prior to use. Always wear protective clothing and good quality gloves when using **Tri-San Power Factor**. Always use adequate ventilation and avoid contact with skin, eyes or clothing. **Tri-San Power Factor** can cause some staining and darkening of tissues due to its' action. Shake thoroughly before use - some separation is possible due to the high concentration of active ingredients present in the formulation.

**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 : Tri-San Power Factor

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

Use of the substance/mixture : Accessory 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. 3	H226
Acute Tox. 4 (Oral)	H302
Acute Tox. 4 (Inhalation:dust,mist)	H332
Skin Corr. 1B	H314
Eye Dam. 1	H318
Resp. Sens. 1	H334
Skin Sens. 1	H317
Muta. 2	H341
STOT SE 3	H335
STOT SE 2	H371
STOT RE 2	H373

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS02

GHS05

GHS07

GHS08

Signal word (GHS-US) :

: Danger

Hazard statements (GHS-US) :

: H226 - Flammable liquid and vapor
H302+H332 - Harmful if swallowed or if inhaled
H314 - Causes severe skin burns and eye damage
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
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
P233 - Keep container tightly closed
P240 - Ground container and receiving equipment
P241 - Use explosion-proof electrical, ventilating, lighting, and equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge

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P260 - Do not breathe dust, fume, mist, spray, vapors
P261 - Avoid breathing dust, fume, mist, spray, vapors
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
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with 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 POISON CENTER
P312 - Call a doctor, a POISON CENTER
P314 - Get medical attention if you feel unwell
P330 - Rinse mouth
P333+P313 - If skin irritation or rash occurs: Get medical attention
P342+P311 - If experiencing respiratory symptoms: Call a doctor
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

other hazards which do not result in classification : Spilled material may present a slipping hazard.

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
Glutaraldehyde	(CAS No) 111-30-8	<10	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
Phenol	(CAS No) 108-95-2	<4	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
Isopropyl alcohol	(CAS No) 67-63-0	<3.5	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Methyl alcohol	(CAS No) 67-56-1	<3.5	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapor), H331 STOT SE 1, H370

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Name	Product identifier	%	GHS-US classification
Glyoxal	(CAS No) 107-22-2	<0.2	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317 Muta. 2, H341

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). Call a doctor.
- 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. Immediately call a doctor.
- First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Take off immediately all contaminated clothing. Get medical attention. Wash contaminated clothing before reuse.
- 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. Transport to hospital.
- First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Immediately call a POISON CENTER. Give water or milk if the person is fully conscious. Take immediately victim to hospital. Seek medical advice (show the label where possible).

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

- Symptoms/injuries : Causes severe skin burns and eye damage. Suspected of causing genetic defects. May cause damage to organs.
- Symptoms/injuries after inhalation : Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.
Danger of serious damage to health by prolonged exposure through inhalation. Difficulty in breathing. Causes damage to liver through prolonged or repeated exposure if inhaled. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination. Death in extreme cases.
- Symptoms/injuries after skin contact : May cause severe burns. Repeated exposure to this material can result in absorption through skin causing significant health hazard. May cause an allergic skin reaction.
- 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 : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard. Central nervous system depression. Ingestion may cause nausea, vomiting and diarrhea. Swallowing can cause severe injury leading to death. Damage to kidneys. Affects the liver. This material contains methanol, which, when ingested, has cardiac acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and 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. 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 : Flammable liquid and vapor.
- Explosion hazard : May form flammable/explosive vapor-air mixture. Vapors can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.
- Reactivity : Thermal decomposition generates : Corrosive vapors.

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.
- Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus.

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- Other information : Flammable liquid and vapor. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Use water spray to cool unopened containers. 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. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors. Move undamaged containers from immediate hazard area if it can be done safely. On burning: release of carbon monoxide - carbon dioxide. unburned hydrocarbons. Formaldehyde. Corrosive vapors.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Stop leak if safe to do so. Avoid breathing dust, fume, mist, spray, vapors. Avoid contact with skin, eyes and clothing. Eliminate all ignition sources if safe to do so. 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. Gas or vapor heavier than air.

6.1.1. For non-emergency personnel

- 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

- Protective equipment : Avoid breathing dust, fume, mist, spray, vapors. Equip cleanup crew with proper protection.
- 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

- Methods for cleaning up : Keep upwind of the spilled material and isolate exposure . Wear proper protective equipment. Do NOT touch spilled material. Cleanup personnel must be trained in the safe handling of this product. If possible ventilate area by means of non-sparking, grounded ventilation system. Spills may be absorbed on non-reactive absorbents such as vermiculite. Place cells into individual plastic bags and then place into appropriate containers and close tightly for disposal. Ensure that cleanup procedures do not expose spilled material to any moisture. Immediately transport closed containers outside.
- Contain large spillage with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Gather the product and place it in a spare container that has been suitably labelled. Store away from other materials. Ensure all national and local regulations are observed.
- Consult the appropriate authorities about waste disposal. Small spills may be flushed to a sanitary sewer with copious amounts of water, if in accordance with local, state or national legislation. Eliminate all sources of ignition, avoid sparks, flames and do not smoke in risk area.

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

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Work in a well-ventilated area. Avoid breathing dust, fume, mist, spray, vapors. Keep away from clothing as well as other incompatible materials. Avoid contact with skin, eyes and clothing. Provide good ventilation in process area to prevent formation of vapor. Keep away from heat, sparks, open flames, hot surfaces. - No smoking. Proper grounding procedures to avoid static electricity should be followed.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practices. 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. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : A washing facility for eye and skin cleaning purposes should be present. Ensure adequate ventilation. Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

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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 container tightly closed.
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
Glutaraldehyde (111-30-8)		
USA ACGIH	ACGIH Ceiling (ppm)	0.05 ppm (activated and inactivated)
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
Glyoxal (107-22-2)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.1 mg/m ³ (inhalable fraction and vapor)
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

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. Monitoring the effectiveness of engineering control is recommended. Use adequate general or local ventilation to keep airborne concentrations below the exposure limits.
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.
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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Pink

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Odor	: Slight pungent 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	: 65 °C (150 °F)
Flash point	: 48 °C (120 °F)
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	: 1.0 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	: No data available

9.2. Other information

VOC content : 12 % (with heat)

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

10.2. Chemical stability

Stable under normal conditions. Unstable on exposure to heat. 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. Heat, sparks, open flames, hot surfaces. Heat sources.

10.5. Incompatible materials

Oxidizing agents. Strong acids. strong bases.

10.6. Hazardous decomposition products

Thermal decomposition generates : Corrosive vapors. Fume. Carbon monoxide. Carbon dioxide. Formaldehyde.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed. 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
Glutaraldehyde (111-30-8)	
LD50 oral rat	252 mg/kg
LD50 dermal rabbit	560 µl/kg

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Glutaraldehyde (111-30-8)	
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

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

Glyoxal (107-22-2)	
LD50 oral rat	3300 mg/kg
LD50 dermal rabbit	> 800 mg/kg
LC50 inhalation rat (mg/l)	2.44 mg/l/4h
ATE US (oral)	3300.00000000 mg/kg bodyweight
ATE US (gases)	4500.00000000 ppmv/4h
ATE US (vapors)	2.44000000 mg/l/4h
ATE US (dust,mist)	2.44000000 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

Skin corrosion/irritation : Causes severe skin burns and eye damage.
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 : Not classified
Based on available data, the classification criteria are not met.

Isopropyl alcohol (67-63-0)	
IARC group	3 - Not classifiable

Phenol (108-95-2)	
IARC group	3 - Not classifiable

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 if inhaled. Toxic if swallowed. Toxic in contact with skin.

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Symptoms/injuries after inhalation	: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Danger of serious damage to health by prolonged exposure through inhalation. Difficulty in breathing. Causes damage to liver through prolonged or repeated exposure if inhaled. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination. Death in extreme cases.
Symptoms/injuries after skin contact	: May cause severe burns. Repeated exposure to this material can result in absorption through skin causing significant health hazard. May cause an allergic skin reaction.
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	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard. Central nervous system depression. Ingestion may cause nausea, vomiting and diarrhea. Swallowing can cause severe injury leading to death. Damage to kidneys. Affects the liver. This material contains methanol, which, when ingested, has caused acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and 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

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])

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])

Glyoxal (107-22-2)	
LC50 fishes 1	215 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	404 mg/l (Exposure time: 48 h - Species: Daphnia magna)

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)

12.2. Persistence and degradability

Tri-San Power Factor	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Tri-San Power Factor	
Bioaccumulative potential	Not established.

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

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

Glyoxal (107-22-2)	
Log Pow	-0.85 (at 25 °C)

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

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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. 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. Consult the appropriate authorities about waste disposal. Incinerate, dispose in sanitary landfill - if permitted. Ensure all national and local regulations are observed.
- Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with DOT

- Transport document description : UN2924, Flammable liquids, corrosive, n.o.s. (Isopropanol, Methanol, Glutaraldehyde), 3, PGIII, ltd. qty.
- Hazard labels (DOT) : 3 - Flammable liquid
8 - Corrosive



- Packing group (DOT) : III - Minor Danger
- DOT Packaging Exceptions (49 CFR 173.xxx) : 150
- 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 : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
- 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

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 %

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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)
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 %

15.2. International regulations

CANADA

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
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
Glyoxal (107-22-2)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class F - Dangerously Reactive Material
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

EU-Regulations

Isopropyl alcohol (67-63-0)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	
Phenol (108-95-2)	
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

15.2.2. National regulations

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)	

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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)

15.3. US State regulations

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			

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)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
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. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
Muta. 2	Flammable liquids Category 1 flammable liquids Category 4
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
Skin Sens. 1B	Sensitisation — Skin, category 1B
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
H226	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

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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
H370	Causes damage to organs
H371	May cause damage to organs
H373	May cause damage to organs through prolonged or repeated exposure

HMIS III Rating

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

SDS US (GHS HazCom 2012)

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