



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product identifier	YSI 2372 Blood Lactate Preservative	
Version #	01	
Issue date	12-November-2014	
Revision date	-	
Supersedes date	-	
CAS #	Mixture	
Product code	2315	
Product use	Analysis Standard/Reagent	
Manufacturer information	YSI, a Xylem brand 1700/1725 Brannum Lane Yellow Springs, Ohio 45387 Yellow Springs, Ohio 45387 MSDSinfo@ysi.com (937) 767-7241 CHEMTREC (US/Canada) (800) 424-9300 CHEMTREC (International) 011 703-527-3887 (Collect calls accepted)	

2. Hazards Identification

Emergency overview	DANGER Toxic if swallowed. Irritating to eyes and skin. May cause irritation to the respiratory system. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Possible reproductive hazard.
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Irritating to eyes.
Skin	Irritating to skin. May cause allergic skin reaction.
Inhalation	May cause irritation of respiratory tract. May cause allergic respiratory reaction. Prolonged inhalation may be harmful.
Ingestion	Toxic if swallowed. Irritating. May cause nausea, stomach pain and vomiting.
Chronic effects	Prolonged overexposure to fluorides may increase fluoride content of bones and teeth, and may result in fluorosis, and brittleness of bones. Repeated or prolonged exposure to high concentrations may cause kidney and liver damage. May cause damage to the heart.
Signs and symptoms	Irritant effects. Rash. Upper respiratory tract irritation. Difficulty in breathing. Symptoms are prostration, gasping, pallor, and uncoordinated movements. Irritating to mouth, throat, and stomach. Prolonged exposure may cause chronic effects.
Potential environmental effects	Components of this product are hazardous to aquatic life. May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Sodium fluoride	7681-49-4	31 - 39
Sodium phosphate dibasic	7558-79-4	33 - 36
Sodium Chloride	7647-14-5	11 - 14
Sodium acid phosphate	7558-80-7	7 - 10
Glycine, N,N'-1,2-ethane diybisN (carboxymethyl)-,dipotassium salt, dihydrate	25102-12-9	< 7
Sodium Benzoate	532-32-1	< 7
Gentamicin sulfate	1405-41-0	< 0.7

4. First Aid Measures

First aid procedures

Inhalation

If dust from the material is inhaled, remove the affected person immediately to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to physician

Symptoms may be delayed.

General advice

Immediate medical attention is required. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties

Not flammable by WHMIS criteria.

Extinguishing media

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters

Protective equipment for firefighters

Firefighters should wear full protective clothing including self contained breathing apparatus.

Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

Explosion data

Sensitivity to static discharge

Not sensitive.

Sensitivity to mechanical impact

Not sensitive.

Hazardous combustion products

During fire, gases hazardous to health may be formed.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Avoid inhalation of dust from the spilled material. Wear a dust mask if dust is generated above exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment

Stop leak if you can do so without risk. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up

Minimize dust generation and accumulation. Should not be released into the environment. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water. Clean up in accordance with all applicable regulations. For waste disposal, see section 13 of the MSDS.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Provide appropriate exhaust ventilation at places where dust is formed. Minimize dust generation and accumulation. Do not breathe dust. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure. Do not get this material on clothing. When using do not eat or drink. Wash thoroughly after handling. Avoid release to the environment. Practice good housekeeping.

Storage

Keep locked up. Store in a closed container away from incompatible materials. Store in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Store away from incompatible materials (see Section 10 of the MSDS).

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH Biological Exposure Indices

Components	Type	Value
Sodium fluoride (CAS 7681-49-4)	BEI	3 mg/l
		2 mg/l

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium fluoride (CAS 7681-49-4)	TWA	2.5 mg/m3

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Sodium fluoride (CAS 7681-49-4)	TWA	2.5 mg/m3

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Sodium fluoride (CAS 7681-49-4)	TWA	2.5 mg/m3

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Sodium fluoride (CAS 7681-49-4)	TWA	2.5 mg/m3

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Sodium fluoride (CAS 7681-49-4)	TWA	2.5 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium fluoride (CAS 7681-49-4)	PEL	2.5 mg/m3

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value	Form
Sodium fluoride (CAS 7681-49-4)	TWA	2.5 mg/m3	Dust.

Engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. Provide easy access to water supply and eye wash facilities.
Personal protective equipment	
Eye / face protection	Wear safety glasses with side shields (or goggles). Wear a full-face respirator, if needed.
Skin protection	Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
Respiratory protection	Wear respirator with dust filter.

9. Physical & Chemical Properties

Appearance	
Physical state	Solid.
Form	Powder.
Color	White
Odor	Mild.
Odor threshold	Not available.
pH	6.5 - 7.5
Vapor pressure	Not applicable
Vapor density	Not applicable
Boiling point	Not available.
Melting point/Freezing point	> 500 °F (> 260 °C)
Solubility (water)	Soluble in water
Specific gravity	Not available.
Flash point	Not applicable
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Evaporation rate	Not available.
Partition coefficient (n-octanol/water)	Not available.

10. Chemical Stability & Reactivity Information

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Incompatible materials	Strong oxidizing agents. Do not mix with other chemicals.
Hazardous decomposition products	No hazardous decomposition products are known.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Sodium Chloride (CAS 7647-14-5)		
Acute		
<i>Oral</i>		
LD50	Rat	3000 mg/kg

* Estimates for product may be based on additional component data not shown.

Acute effects	Toxic if swallowed.
Sensitization	May cause sensitization by skin contact. May cause sensitization by inhalation.
Local effects	Causes skin, eye and respiratory tract irritation.
Chronic effects	May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	
ACGIH Carcinogens	
Sodium fluoride (CAS 7681-49-4)	A4 Not classifiable as a human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Sodium fluoride (CAS 7681-49-4)	3 Not classifiable as to carcinogenicity to humans.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive effects	Not available.
Teratogenicity	Not available.
Symptoms and target organs	Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Rash. Upper respiratory tract irritation. Difficulty in breathing. Prolonged exposure may cause chronic effects. Toxic if swallowed. May cause an allergic skin reaction. May cause allergic respiratory reaction. Causes damage to organs (liver, kidney, heart, teeth) through prolonged or repeated exposure.
Synergistic materials	Not available.

12. Ecological Information

Ecotoxicological data

Components	Species	Test Results
Sodium Chloride (CAS 7647-14-5)		
Aquatic		
Crustacea	EC50 Water flea (<i>Daphnia magna</i>)	874 mg/l, 48 hours
Ecotoxicity	Harmful to aquatic life with long lasting effects.	
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.	
Aquatic toxicity	Not available.	
Persistence and degradability	Not available.	

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory Information

Canadian regulations

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status

Controlled

WHMIS classification

D1B - Immediate/Serious-TOXIC
D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling



International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

HMIS® ratings

Health: 2*
Flammability: 0
Physical hazard: 0

Disclaimer

YSI, a Xylem brand cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Prepared by

Not available.