



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product identifier YSI 2705 Lactose Buffer Kit
Version # 01
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Revision date -
Supersedes date -
CAS # Mixture
Product code 2705
Product use Analysis Standard/Reagent
Manufacturer information YSI, Inc
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(Collect calls accepted)
Supplier Not available.

2. Hazards Identification

Emergency overview WARNING
Causes serious eye irritation. May cause an allergic skin reaction. Exposure to powder or dusts may be irritating to eyes, nose and throat.

Potential health effects
Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.
Eyes Causes serious eye irritation. Avoid contact with eyes.
Skin May cause allergic skin reaction. Avoid contact with the skin.
Inhalation Dust may irritate respiratory system. Do not breathe dust.
Ingestion Do not ingest.

Signs and symptoms Causes serious eye irritation. Symptoms include itching, burning, redness, and tearing of eyes. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Dust may irritate throat and respiratory system and cause coughing.

Potential environmental effects Components of this product are hazardous to aquatic life.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Sodium phosphate dibasic	7558-79-4	50 - 55
Sodium chloride	7647-14-5	15 - 20
Sodium acid phosphate	7558-80-7	10 - 15
Sodium Benzoate	532-32-1	< 10
Potassium ferricyanide	13746-66-2	< 5
Sodium bromate	7789-38-0	< 5
Copper (II) Chloride	10125-13-0	< 1

4. First Aid Measures

First aid procedures
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.

Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. If skin irritation or an allergic skin reaction develops, get medical attention. Wash contaminated clothing before reuse.
Inhalation	If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
General advice	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 (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Protection of firefighters	
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
Explosion data	
Sensitivity to static discharge	Not available.
Sensitivity to mechanical impact	Not available.
Hazardous combustion products	Phosphorus oxides.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. 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. Ensure adequate ventilation. 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. This product is miscible in water. 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. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Storage	Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS).

8. Exposure Controls / Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
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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.
Personal protective equipment	
Eye / face protection	Safety glasses with side-shields.
Skin protection	Wear suitable protective clothing. Use of an impervious apron is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

9. Physical & Chemical Properties

Appearance	
Physical state	Solid.
Form	Powder.
Color	White.
Odor	Mild odor.
Odor threshold	Not available.
pH	6.5 - 7.5
Vapor pressure	Not available.
Vapor density	Not available.
Boiling point	Not available.
Melting point/Freezing point	> 932 °F (> 500 °C)
Solubility (water)	Soluble
Specific gravity	> 1
Flash point	Not available.
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

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.
Hazardous decomposition products	Phosphorus oxides.
Possibility of hazardous reactions	Not available.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Copper (II) Chloride (CAS 10125-13-0)		
Acute		
<i>Oral</i>		
LD50	Guinea pig	32 mg/kg
	Mouse	190 mg/kg
	Rat	140 mg/kg

Components	Species	Test Results
Potassium ferricyanide (CAS 13746-66-2)		
Acute		
<i>Oral</i>		
LD50	Rat	4520 mg/kg
Sodium acid phosphate (CAS 7558-80-7)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 7940 mg/kg
<i>Oral</i>		
LD50	Mouse	> 2000 mg/kg
	Rat	8290 mg/kg
Sodium bromate (CAS 7789-38-0)		
Acute		
<i>Other</i>		
LD50	Mouse	140 mg/kg
Sodium chloride (CAS 7647-14-5)		
Acute		
<i>Oral</i>		
LD50	Rat	3000 mg/kg
Sodium phosphate dibasic (CAS 7558-79-4)		
Acute		
<i>Oral</i>		
LD50	Rat	17 g/kg

Acute effects

Sensitization

The product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals in contact with skin.

Local effects

Irritating to eyes. The product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals.

Chronic effects

Not available.

Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Skin corrosion/irritation

Not classified.

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

This product is not expected to cause reproductive or developmental effects.

Teratogenicity

Not available.

Symptoms and target organs

Symptoms include itching, burning, redness, and tearing of eyes. May cause an allergic skin reaction. Symptoms may include redness, drying and cracking of the skin.

Synergistic materials

Not available.

12. Ecological Information

Ecotoxicological data

Components	Species	Test Results
Potassium ferricyanide (CAS 13746-66-2)		
Aquatic		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)
		8.96 - 13.1 mg/l, 96 hours
Sodium acid phosphate (CAS 7558-80-7)		
Aquatic		
Fish	LC50	Western mosquitofish (Gambusia affinis)
		186 mg/l, 96 hours

Components	Species	Test Results
Sodium Benzoate (CAS 532-32-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 100 mg/l, 96 hours
Sodium chloride (CAS 7647-14-5)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 340.7 - 469.2 mg/l, 48 hours
Ecotoxicity	Components of this product are hazardous to aquatic life.	
Environmental effects	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
Aquatic toxicity	Harmful to aquatic organisms.	
Persistence and degradability	Not available.	
Mobility in environmental media	This product is miscible in water.	

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	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)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
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, Inc 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.

Prepared by

Not available.