



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product identifier YSI 2357 Buffer Concentrate Kit
Version # 01
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Revision date -
Supersedes date -
CAS # Mixture
Product code 2357
Product use Analysis Standard/Reagent
Manufacturer information YSI, Inc
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2. Hazards Identification

Emergency overview WARNING
Causes eye irritation. Prolonged exposure may cause chronic effects. May cause reproductive effects.

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Skin Do not get this material in contact with skin.

Inhalation Do not breathe dust/fume/gas/mist/vapors/spray.

Ingestion Do not ingest.

Chronic effects Contains a substance which may have a reproductive effect.

Signs and symptoms Symptoms include itching, burning, redness, and tearing of eyes.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Sodium phosphate dibasic	7558-79-4	50 - 55
Sodium chloride	7647-14-5	16 - 22
Sodium acid phosphate	7558-80-7	10 - 15
Glycine, N,N'-1,2-ethanediybis(N-carboxymethyl) dipotassium salt, dihydrate	25102-12-9	< 10
Sodium Benzoate	532-32-1	< 10
Gentamicin, sulfate (salt)	1405-41-0	0.5 - 1.5

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. If eye irritation persists: Get medical advice/attention.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Inhalation Move to fresh air. Oxygen or artificial respiration if needed. Call a physician if symptoms develop or persist.

Ingestion Rinse mouth. Do not induce vomiting without advice from poison control center. Get medical attention if symptoms occur.

Notes to physician Provide general supportive measures and treat symptomatically.
General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties Not flammable by WHMIS criteria.

Extinguishing media

Suitable extinguishing media Alcohol resistant foam. Water fog. 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

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 standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk.

Explosion data

Sensitivity to static discharge Not established.

Sensitivity to mechanical impact Not established.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the MSDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

Methods for cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid contact during pregnancy/while nursing. Provide adequate ventilation. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke.

Storage Store locked up. Store in a cool, dry, well-ventilated place. Keep container tightly closed. Store away from incompatible materials (See Section 10).

8. Exposure Controls / Personal Protection

Occupational exposure limits No exposure limits noted for ingredient(s).

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. Provide eyewash station.

Personal protective equipment

Eye / face protection Wear safety glasses with side shields (or goggles).

Skin protection Wear suitable protective clothing. For prolonged or repeated skin contact use suitable protective gloves.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

9. Physical & Chemical Properties

Appearance	Not available.
Physical state	Solid.
Form	Powder.
Color	White
Odor	Mild odor.
Odor threshold	No data available.
pH	6.5 - 7.5
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Boiling point	No data available.
Melting point/Freezing point	> 500 °F (> 260 °C)
Solubility (water)	Soluble.
Specific gravity	> 1
Flash point	Not applicable.
Flammability limits in air, upper, % by volume	No data available.
Flammability limits in air, lower, % by volume	No data available.
Auto-ignition temperature	No data available.
VOC	Not applicable.
Evaporation rate	No data available.
Viscosity	Not applicable.
Partition coefficient (n-octanol/water)	Not determined.
Other data	
Decomposition temperature	No data available.
Density	No data available.
Explosive limit - lower (%)	No data available.
Explosive limit - upper (%)	No data available.
Explosive properties	No data available.
Flammability (solid, gas)	No data available.
Oxidizing properties	No data available.

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	None known.
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous decomposition products	Phosphorus oxides.
Possibility of hazardous reactions	Polymerization will not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Sodium acid phosphate (CAS 7558-80-7)		
Acute		
Dermal		
LD50	Rabbit	> 7940 mg/kg

Components	Species	Test Results
<i>Oral</i> LD50	Mouse	> 2000 mg/kg
	Rat	8290 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
Local effects	Irritating to eyes.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Reproductive effects	Suspected of damaging fertility or the unborn child.	
Symptoms and target organs	Symptoms include itching, burning, redness, and tearing of eyes. May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility based on animal data.	

12. Ecological Information

Ecotoxicological data

Components	Species	Test Results
Sodium acid phosphate (CAS 7558-80-7)		
Aquatic		
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>) 186 mg/l, 96 hours
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
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) 1294.6 mg/l, 96 hours

Ecotoxicity	Not expected to be harmful to aquatic organisms.
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations.
Waste from residues / unused products	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	



Inventory status

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: 1 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 1 Flammability: 0 Instability: 0
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.