# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **YSI 2705 Lactose Buffer Kit**

**Other means of identification**

**Product code** 2705

**Recommended use** Analysis Standard/Reagent

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company name** YSI, Inc
**Address** 1700/1725 Brannum Lane
**Telephone** (937) 767-7241
**E-mail** MSDSinfo@ysi.com

**Emergency phone number**

| | |
|---|---|
| CHEMTREC (US/Canada) | (800) 424-9300 |
| CHEMTREC (International) (Collect calls accepted) | 011 703-527-3887 |

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards**

| | |
|---|---|
| Serious eye damage/eye irritation | Category 2A |
| Sensitization, skin | Category 1 |

**OSHA defined hazards** Not classified.

**Label elements**

**Signal word** Warning

**Hazard statement** May cause an allergic skin reaction. Causes serious eye irritation.

**Precautionary statement**

**Prevention** Wash thoroughly after handling. Wear protective gloves and eye/face protection. Avoid breathing dust. Contaminated work clothing must not be allowed out of the workplace.

**Response** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Storage** Store away from incompatible materials.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | CAS number | % |
|---|---|---|
| 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

**Inhalation** If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.

**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.

**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.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed** Causes serious eye irritation. Symptoms include itching, burning, redness, and tearing of eyes. May cause allergic skin reaction. Symptoms include redness, itching and pain.

**Indication of immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

**General information** IF exposed or concerned: Get medical advice/attention. 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

**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.

**Specific hazards arising from the chemical** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions 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.

**General fire hazards** No unusual fire or explosion hazards noted.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** 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. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up** This product is miscible in water. Stop the flow of material, if this is without risk. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Minimize dust generation and accumulation. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

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

## 7. Handling and storage

**Precautions for safe 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.

**Conditions for safe storage, including any incompatibilities** Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value | Form |
|---|---|---|---|
| Copper (II) Chloride (CAS 10125-13-0) | TWA | 1 mg/m3 | Dust and mist. |

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Appropriate 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. Provide eyewash station.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Safety glasses with side-shields.

**Skin protection**

**Hand protection** Wear appropriate chemical resistant gloves.

**Other** 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.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

**Appearance**

**Physical state** Solid.

**Form** Powder.

**Color** White.

**Odor** Mild odor.

**Odor threshold** Not available.

**pH** 6.5 - 7.5

**Melting point/freezing point** > 932 °F (> 500 °C)

**Initial boiling point and boiling range** Not available.

**Flash point** Not available.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** Not available.

**Vapor density** Not available.

**Relative density** > 1 g/cm3

**Solubility(ies)**

**Solubility (water)** Soluble

**Partition coefficient (n-octanol/water)** Not available.

| | |
|---|---|
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **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. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Ingestion** | Do not ingest. |
| **Inhalation** | Do not inhale this material. |
| **Skin contact** | May cause allergic skin reaction. Avoid contact with skin. |
| **Eye contact** | Causes serious eye irritation. Avoid contact with eyes. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | 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. |

**Information on toxicological effects**

**Acute toxicity**

| Components | Species | Test Results |
|---|---|---|
| Copper (II) Chloride (CAS 10125-13-0) | | |
| **Acute** | | |
| *Oral* | | |
| LD50 | Guinea pig | 32 mg/kg |
| | Mouse | 190 mg/kg |
| | Rat | 140 mg/kg |
| Potassium ferricyanide (CAS 13746-66-2) | | |
| **Acute** | | |
| *Oral* | | |
| LD50 | Rat | 4520 mg/kg |
| Sodium acid phosphate (CAS 7558-80-7) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 7940 mg/kg |
| *Oral* | | |
| LD50 | Mouse | > 2000 mg/kg |
| | Rat | 8290 mg/kg |
| Sodium bromate (CAS 7789-38-0) | | |
| **Acute** | | |
| *Other* | | |
| LD50 | Mouse | 140 mg/kg |
| Sodium chloride (CAS 7647-14-5) | | |
| **Acute** | | |
| *Oral* | | |
| LD50 | Rat | 3000 mg/kg |

| Components | Species | Test Results |
|---|---|---|
| Sodium phosphate dibasic (CAS 7558-79-4) | | |
| **Acute** | | |
| *Oral* | | |
| LD50 | Rat | 17 g/kg |

**Skin corrosion/irritation** Not classified.

**Serious eye damage/eye irritation** Causes serious eye irritation.

**Respiratory or skin sensitization**

**Respiratory sensitization** No data available.

**Skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

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

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

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

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** No data available.

## 12. Ecological information

**Ecotoxicity** Components of this product are hazardous to aquatic life. 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.

| 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 |
| Sodium Benzoate (CAS 532-32-1) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours |
| Sodium chloride (CAS 7647-14-5) | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 340.7 - 469.2 mg/l, 48 hours |

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

| | |
|---|---|
| **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

**DOT**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

| | |
|---|---|
| **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | Not applicable. |

## 15. Regulatory information

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Sodium phosphate dibasic (CAS 7558-79-4) LISTED

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

| | |
|---|---|
| **SARA 311/312 Hazardous chemical** | Yes |

**SARA 313 (TRI reporting)**

| Chemical name | CAS number | % by wt. |
|---|---|---|
| Copper (II) Chloride | 10125-13-0 | < 1 |

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

| | |
|---|---|
| **Safe Drinking Water Act (SDWA)** | Not regulated. |

**US state regulations**

**US. Massachusetts RTK - Substance List**

Sodium phosphate dibasic (CAS 7558-79-4)

**US. New Jersey Worker and Community Right-to-Know Act**

Copper (II) Chloride (CAS 10125-13-0)
Sodium bromate (CAS 7789-38-0)
Sodium phosphate dibasic (CAS 7558-79-4)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Copper (II) Chloride (CAS 10125-13-0)
Sodium phosphate dibasic (CAS 7558-79-4)

**US. Rhode Island RTK**

Sodium phosphate dibasic (CAS 7558-79-4)

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

**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 |
| 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, including date of preparation or last revision

**Issue date** 14-July-2014

**Revision date** -

**Version #** 01

**HMIS® ratings** Health: 2
Flammability: 0
Physical hazard: 0

**NFPA ratings**


**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.