1 Identification

Product identifier

Product name: Buffer solution, pH 7.00 Colored Yellow

Stock number: 40439

Relevant identified uses of the substance or mixture and uses advised against.
Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Information Department: Health, Safety and Environmental Department
Emergency telephone number:
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)
The product is not classified according to the Globally Harmonized System (GHS).

Hazards not otherwise classified No information known.

Label elements
GHS label elements Not applicable
Hazard pictograms Not applicable
Signal word Not applicable
Hazard statements Not applicable
WHMIS classification Not controlled

Classification system
HMIS ratings (scale 0-4)

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Health (acute effects) = 1
Flammability = 0
Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Dangerous components:

| 1310-73-2 Sodium hydroxide | Skin Corr. 1A, H314 | 0.7% |

Additional information None known.

Non-Hazardous Ingredients

| 7778-77-0 Potassium dihydrogen phosphate | Skin Irrit. 2, H315; Eye Irrit. 2A, H319 | 0.7% |
| 7732-18-5 Water | | 98.6% |

4 First-aid measures

Description of first aid measures

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

After skin contact
Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.

Information for doctor
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:
Phosphorus oxides
Sodium oxide
Potassium oxide

Advice for firefighters

Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.

Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.
### 7 Handling and storage

#### Handling

**Precautions for safe handling**
- Keep container tightly sealed.
- Store in cool, dry place in tightly closed containers.

**Information about protection against explosions and fires:** The product is not flammable.

**Conditions for safe storage, including any incompatibilities**

**Storage**
- Requirements to be met by storerooms and receptacles: No special requirements.
- Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.
- Further information about storage conditions:
  - Keep container tightly sealed.
  - Store in cool, dry conditions in well sealed containers.

### 8 Exposure controls/personal protection

**Additional information about design of technical systems:**
- Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

**Additional Information:** No data

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**
- The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Remove all soiled and contaminated clothing immediately.
- Wash hands before breaks and at the end of work.
- Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Protection of hands:**
- Impervious gloves
- Check protective gloves prior to each use for their proper condition.
- The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Penetration time of glove material (in minutes):** Not determined.

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

### 9 Physical and chemical properties

**Information on basic physical and chemical properties**

**General Information**

**Appearance:** Liquid

**Color:** Yellow

**Odor:** Not determined

**Odor threshold:** Not determined.

**pH-value:** Not determined.

**Change in condition**

- Melting point/Melting range: Not determined
- Boiling point/Boiling range: Not determined
- Sublimation temperature/start: Not determined
- Flammability (solid, gaseous): Not determined.
- Ignition temperature: Not determined
- Decomposition temperature: Not determined
- Auto igniting: Product is not selfigniting.

**Danger of explosion:** Not determined.

**Explosion limits:**
- Lower: Not determined
- Upper: Not determined

**Vapor pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg)

**Density:** Not determined

**Relative density:** Not determined.

**Vapor density:** Not determined.

**Evaporation rate:** Not determined.

**Solubility in / Miscibility with**
- Water: Not miscible or difficult to mix
- Partition coefficient (n-octanol/water): Not determined.

**Viscosity:**
- dynamic: Not determined.
- kinematic: Not determined.

**Solvent content:**
- Organic solvents: 0.0 %
10 Stability and reactivity

Reactivity No information known.
Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
Water reacts violently with alkali metals.
Reacts with alkaline earth metals.
Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.
Conditions to avoid No further relevant information available.
Incompatible materials: Oxidizing agents
Hazardous decomposition products:
Phosphorus oxides (e.g. P2O5)
Sodium oxide
Potassium oxide

11 Toxicological information

Information on toxicological effects
Acute toxicity: No effects known.
LD/LC50 values that are relevant for classification:
5778-77-0 Potassium dihydrogen phosphate
Dermal LD50 >4640 mg/kg (rabbit)
Skin irritation or corrosion: May cause irritation
Eye irritation or corrosion: May cause irritation
Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for components in this product.
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: No effects known.
Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for components in this product.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
The product is not subject to classification according to internally approved calculation methods for preparations.

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Additional ecological information:
General notes:
Do not allow material to be released to the environment without proper governmental permits.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number
DOT, ADN, IMDG, IATA: Not applicable
UN proper shipping name
DOT, ADN, IMDG, IATA: Not applicable
Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA: Not applicable
Class: Not applicable
Packing group
DOT, IMDG, IATA: Not applicable
Environmental hazards:
Marine pollutant (IMDG): No
Special precautions for user Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
Transport/Additional information:
DOT: No
Marine Pollutant (DOT): -
UN "Model Regulation": -
Product name: Buffer solution, pH 7.00 Colored Yellow

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

GHS label elements Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)

None of the ingredients are listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer

None of the ingredients are listed.

Prop 65 - Developmental toxicity

None of the ingredients are listed.

Prop 65 - Developmental toxicity, female

None of the ingredients are listed.

Prop 65 - Developmental toxicity, male

None of the ingredients are listed.

Information about limitation of use:

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

None of the ingredients are listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

None of the ingredients is listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

None of the ingredients is listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Date of preparation / last revision 11/24/2015 / -

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

vPvB: very Persistent and very Bioaccumulative

ACGIH: American Conference of Governmental Industrial Hygienists (USA)

OSHA: Occupational Safety and Health Administration (USA)

NTP: National Toxicology Program (USA)

IARC: International Agency for Research on Cancer

EPA: Environmental Protection Agency (USA)