

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 04/04/2023

Reviewed on 04/04/2023

1 Identification

- **Product Identifier**
- **Trade Name: Simulated lung fluid- Gamble's solution (stabilized/non-stabilized)**
- **Product Number:** 1700-0800, 1700-0808, 1700-0818
- **Relevant identified uses of the substance or mixture and uses advised against:**
No further relevant information available.
- **Product Description:** Simulated lung fluid (stabilized/ non-stabilized)
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
Pickering Laboratories, Inc.
1280 Space Park Way
Mountain View, CA 94043
Phone: (650) 694-6700
Fax: (650) 968-0749
www.pickeringlabs.com
support@pickeringlabs.com
- **Emergency telephone number:**
Clean Harbors Environmental Services
1-800-645-8265

2 Hazard(s) Identification

- **Classification of the substance or mixture:**
The product does not need classification according to OSHA HazCom Standard 29 CFR paragraph (d) of §1910.1200(g) and GHS Rev 03.
- **Label elements:**
- **Hazard pictograms:** Non-Regulated Material
- **Signal word:** Non-Regulated Material
- **Hazard statements:** Non-Regulated Material
- **Unknown acute toxicity:**
This value refers to knowledge of known, established toxicological or ecotoxicological values.
0 % of the mixture consists of component(s) of unknown toxicity.
- **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Physical Hazard = 0

- **Hazard(s) not otherwise classified (HNOC):** None

3 Composition/Information on Ingredients

- **Chemical characterization: Substance**
- **Description:** Non-Regulated Material
- **Dangerous Components:** Non-Regulated Material

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4 First-Aid Measures

- **Description of first aid measures**
- **General information:** If symptoms persist, call a physician.
- **After inhalation:** Not anticipated under normal use.
- **After skin contact:** If skin irritation occurs, consult a doctor.
- **After eye contact:**
If eye irritation occurs, consult a doctor.
Rinse opened eye for several minutes under running water.
- **After swallowing:**
Rinse mouth with water ensuring that rinse is not swallowed. Drink 2 glasses of water to dilute and induce vomiting by touching finger to the back of the victims throat. Get medical assistance immediately.
- **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:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information.
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters**
- **Special protective equipment for firefighters:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:** Not required.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the collected material according to regulations.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

· **PAC-1:**

144-55-8	Sodium Bicarbonate	13 mg/m ³
127-09-3	Sodium Acetate	11 mg/m ³
10035-04-8	Calcium chloride dihydrate	16 mg/m ³
7440-09-7	Potassium chloride	2.3 mg/m ³
7786-30-3	Magnesium Chloride	11 mg/m ³
7757-82-6	Sodium Sulphate	9.8 mg/m ³

· **PAC-2:**

144-55-8	Sodium Bicarbonate	140 mg/m ³
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127-09-3	Sodium Acetate	120 mg/m ³
10035-04-8	Calcium chloride dihydrate	170 mg/m ³
7440-09-7	Potassium chloride	25 mg/m ³
7786-30-3	Magnesium Chloride	120 mg/m ³
7757-82-6	Sodium Sulphate	110 mg/m ³
· PAC-3:		
144-55-8	Sodium Bicarbonate	840 mg/m ³
127-09-3	Sodium Acetate	700 mg/m ³
10035-04-8	Calcium chloride dihydrate	1,100 mg/m ³
7440-09-7	Potassium chloride	150 mg/m ³
7786-30-3	Magnesium Chloride	550 mg/m ³
7757-82-6	Sodium Sulphate	650 mg/m ³

7 Handling and Storage

- **Handling**
- **Precautions for safe handling:**
 Avoid contact with skin, eyes and clothing
 Avoid breathing fumes.
 Use personal protection equipment as outlined in section 8.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool, dry place.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s):** No further relevant information available.

8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters:**
- **Components with occupational exposure limits:**
 The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.
- **Exposure controls:**
- **Personal protective equipment**
- **General protective and hygienic measures:**
 Use adequate exhaust ventilation to prevent inhalation of product vapors.
 Do not eat or drink while handling product.
 Immediately remove all soiled and contaminated clothing.
 The usual precautionary measures for handling chemicals should be followed.
 Wash hands before breaks and at the end of work.
- **Breathing equipment:**
 Respiratory protection is not required unless handling of the material produces nuisance airborne concentrations.

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· **Protection of hands:**



Protective gloves

- **Material of gloves:** Rubber, latex or vinyl
- **Penetration time of glove material:** Breakthrough time of 240 minutes.
- **Eye protection:**



Goggles recommended during refilling.

- **Body protection:** Lab coat
- **Limitation and supervision of exposure into the environment:** None

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

- | | |
|--------------------------|------------------|
| · Form: | Liquid |
| · Color: | Clear, colorless |
| · Odor: | Slight |
| · Odor threshold: | Not determined. |
| · pH-value: | Not applicable. |

· **Change in condition**

- | | |
|---------------------------------------|-------------------|
| · Melting point/Melting range: | Not determined. |
| · Boiling point/Boiling range: | ≥100 °C (≥212 °F) |

· **Flash point:**

None

· **Flammability (solid, gaseous):**

Not applicable.

· **Auto igniting:**

Not applicable

· **Decomposition temperature:**

Not determined.

· **Ignition temperature:**

Product is not self-igniting.

· **Danger of explosion:**

Product does not present an explosion hazard.

· **Explosion limits:**

- | | |
|-----------------|-----------------|
| · Lower: | Not determined. |
| · Upper: | Not determined. |

· **Vapor pressure @ 20 °C (68 °F):**

≤23 hPa (≤17.3 mm Hg)

· **Density @ 20 °C (68 °F):**

≥1.0109-≤1.011 g/cm³ (≥8.436-≤8.4368 lbs/gal)

· **Relative density:**

Not determined.

· **Vapor density:**

Not determined.

· **Evaporation rate:**

Not determined.

· **Solubility in / Miscibility with:**

- | | |
|-----------------|------------------|
| · Water: | Aqueous solution |
|-----------------|------------------|

· **Partition coefficient (n-octanol/water):** Not determined.

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- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
 - Water:** 98.9 %
 - VOC content:** 0.00 %
 - Solids content:** 1.1 %
- **Other information:** No further relevant information available.

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** No data available.
- **Primary irritant effect:**
- **On the skin:** Mild irritant effect.
- **On the eye:** Mild irritant effect.
- **Additional toxicological information:**

- **Carcinogenic categories:**

· IARC (International Agency for Research on Cancer):
None of the ingredients are listed.

· NTP (National Toxicology Program):
None of the ingredients are listed.

· OSHA-Ca (Occupational Safety & Health Administration):
None of the ingredients are listed.

12 Ecological Information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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- **Other adverse effects:** No further relevant information available.

13 Disposal Considerations

- **Waste treatment methods**
- **Recommendation:**
This product may be mixed with a combustible solvent and burned in a chemical incinerator equipped with an after burner and scrubber. This product can also be sent to an EPA approved waste disposal facility. Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport Information

- **UN-Number:**
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name:**
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es):**
- **DOT, ADR/ADN, ADN, IMDG, IATA**
- **Class:** Non-Regulated Material
- **Packing group:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
No further relevant information available.
- **SARA (Superfund Amendments and Reauthorization):**

· Section 355 (extremely hazardous substances):
None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):		
7732-18-5	Water, distilled water, deionized water	ACTIVE
7647-14-5	Sodium Chloride	ACTIVE
144-55-8	Sodium Bicarbonate	ACTIVE
127-09-3	Sodium Acetate	ACTIVE
7440-09-7	Potassium chloride	ACTIVE
7558-79-4	Sodium Phosphate, dibasic	ACTIVE
7786-30-3	Magnesium Chloride	ACTIVE
7757-82-6	Sodium Sulphate	ACTIVE

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· Hazardous Air Pollutants		
None of the ingredients are listed.		
· California Proposition 65:		
· Chemicals known to cause cancer:		
None of the ingredients are listed.		
· Chemicals known to cause reproductive toxicity for females:		
None of the ingredients are listed.		
· Chemicals known to cause reproductive toxicity for males:		
None of the ingredients are listed.		
· Chemicals known to cause developmental toxicity:		
None of the ingredients are listed.		
· New Jersey Right-to-Know List:		
7440-09-7	Potassium chloride	
7558-79-4	Sodium Phosphate, dibasic	
· New Jersey Special Hazardous Substance List:		
7440-09-7	Potassium chloride	F3, R2
· Pennsylvania Right-to-Know List:		
7440-09-7	Potassium chloride	
7558-79-4	Sodium Phosphate, dibasic	
7757-82-6	Sodium Sulphate	
· Pennsylvania Special Hazardous Substance List:		
7558-79-4	Sodium Phosphate, dibasic	E
7757-82-6	Sodium Sulphate	E
· Carcinogenic categories:		
· EPA (Environmental Protection Agency):		
None of the ingredients are listed.		
· TLV (Threshold Limit Value established by ACGIH):		
None of the ingredients are listed.		
· NIOSH-Ca (National Institute for Occupational Safety and Health):		
None of the ingredients are listed.		
· GHS label elements Non-Regulated Material		
· Hazard pictograms: Non-Regulated Material		
· Signal word: Non-Regulated Material		
· Hazard statements: Non-Regulated Material		
· National regulations:		
The product is not subject to be labelled according with the prevailing version of the regulations on hazardous substances.		
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.		

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

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· **Contact:**

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
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
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety & Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

· *** Data compared to the previous version altered.**

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