

4406.

SA08228

## **Kit #81R pH Measurements/Indicator**

## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: Bromothymol blue, 0.1%  
 Alternative names: Not available.  
 Product Number: 12-3-5EA, 80-3EA, 81R-9EA

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268

**1.4 Emergency telephone number:** Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
 Not classified

### 2.2 Label elements, including precautionary statements

Signal word: Not classified  
 Hazards statements: Not classified  
 Precautionary statements: Not classified

Pictogram: Not classified

**2.3 Hazards not otherwise classified:** none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substance:** Not applicable

### 3.2 Mixture

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS# 7732-18-5	99.1%	Not classified
Bromothymol blue	CAS#34722-90-2	0.1%	Not classified

**3.3 Chemicals where a trade secret is claimed:** None

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develop.

**4.2 Most important symptoms and effects, both acute and delayed:** Refer to section 11.

**4.3 Indication of any immediate medical attention and special treatment needed:** No additional information available.

## 5. FIREFIGHTING MEASURES

**5.1 Extinguishing media:** Nonflammable liquid

Suitable extinguishing media: Use TriClass, dry chemical extinguisher for surrounding fires.

**5.2 Special hazard arising from the substance or mixture:** Not available.

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** Mop up the area.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Avoid breathing vapor. Use with adequate ventilation. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container in cool, well-ventilated area.

**7.3 incompatibility:** Refer to section 10.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** ACGIH: Not classified

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** None should be needed if normal laboratory handling at room temperature.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid.

**Appearance:** Blue.

**Odor:** Not available

**pH:** Not available

**Vapor Pressure ( mm Hg):** Not available

**Vapor Density:** Not available

**Evaporation Rate:** Not available

**Viscosity:** N/A

**Flash point:** N/A

**Autoignition:** N/A

**Boiling point:** ≈100°C

**Melting point:** Not available

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Not available

**Specific gravity (H<sub>2</sub>O = 1):** ≈1 at 20°C

**Percent volatile (%):** 100%

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** Not available.

**Incompatibilities:** Not available

**Hazardous decomposition:** Not available.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eyes: Not expected to cause any acute effects. Skin: Not expected to cause any acute effects. Inhalation: Not expected to cause irritation to the respiratory tract and mucous membrane. Ingestion: Not expected to cause any acute effects.

**Toxicological data**

**Acute oral toxicity ORAL LD<sub>50</sub>:** Not available

**Acute vapor toxicity IHL-LC<sub>50</sub>:** Not available

**DERMAL LD<sub>50</sub>:** Not available

**Carcinogenicity:**

**California prop 65:** Not classified

## 12. ECOLOGICAL INFORMATION

Not available.

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations, or contact with a licensed chemical disposal agency.

## 14. TRANSPORT INFORMATION

**UN number:** N/A

**Shipping name:** N/A

**Hazard Class:** N/A

**Packing group:** N/A

**Exceptions:** Ltd Qty. N/A

## 15. REGULATORY INFORMATION

TSCA-listed.

## 16. OTHER INFORMATION

**Disclaimer:**

The Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. LAB-AIDS® makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation and verification. The data should not be confused with local, state, federal regulations, or insurance mandates, and CONSTITUTE NO WARRANTY. Any use of these data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond LAB-AIDS, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).



## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: Phenolphthalein Solution  
 Alternative names: Phenolphthalein Solution, pH indicator.  
 Product Number: SA-1B20xx, CASE-B016, 80-2EA, 81R-10EA, 82-6EA, A80-2, A81R-10, A82-6, C80-2, C81R-10, C82-6

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification

Flam. Liq. (Category 2), H225

Eye irritant (Category 2A), H319

Carcinogenicity (Category 2), H351

### 2.2 Label elements, including precautionary statements

Signal word: Danger

Hazards statements: H225 - Highly flammable liquid and vapor, H319 - Causes serious eye irritation.

Precautionary statements: P210 - Keep away from heat, hot surfaces, open flames, sparks, P280 - Wear protective gloves, eye protection



Pictogram:

### 2.3 Hazards not otherwise classified: none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substance: Not applicable

### 3.2 Mixture:

Chemical Name	Product identifier	%	GHS-US classification
Isopropanol	CAS# 67-63-0	70%	Flam. Liq. 2, H225; Eye Irrit. 2A; STOT SE 3, H336
Water	CAS# 7732-18-5	30%	Not classified
Phenolphthalein	CAS# 77-09-8	0.5%	Cell Mut. 2, H341; Rep. 2, H361; Carc. 2, H351

### 3.3 Chemicals where a trade secret is claimed: None

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Not applicable.

**4.2 Most important symptoms and effects, both acute and delayed:** Exposure to high concentrations may cause coughing and central nervous system depression. Dizziness. Headache.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media: Use TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Vapor spreads at floor level. Flash back possible over considerable distance.

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** Contain the spill with an inert absorbent material and deposit in a sealed container. For small spill use paper towel. Dry material place in trash. Ventilate and wash spill area with soap and water.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Keep away from heat, sparks and flame. Vapor forms from this product and may travel, or be moved by air currents and ignited by pilot lights, static discharges, flames, sparks, heaters or other ignition sources. Ensure all equipment is electrically grounded before beginning transfer operations.

Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Avoid breathing vapor. Use hood or with adequate ventilation. Wash hands thoroughly after handling.

**7.2 Storage:** Flammable cabinet. Keep container in cool, well-ventilated area.

**7.3 incompatibility:** Refer to section 10.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** ACGIH: STEL: 980g/m<sup>3</sup>; USA OSHA: TWA: 490g/m<sup>3</sup>

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** Non should be needed if normal laboratory handling at room temperature. Use self-contained breathing apparatus in high vapor concentrations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid.

**Appearance:** Clear to slight yellowish.

**Odor:** Alcohol

**pH:** Not available

**Vapor Pressure ( mm Hg):** 32.4 at 20 °C/68°F (Isopropyl alcohol)

**Vapor Density:** the Not available

**Evaporation Rate:** Not available

**Viscosity:** N/A

**Flash point:** 12°C/53.6°F (isopropyl alcohol)

**Autoignition:** 399 °C/750.2°F (Isopropyl alcohol)

**Boiling point:** 82°C/180°F (isopropyl alcohol)

**Melting point:** -89.5°C/-129.1°F (isopropyl alcohol)

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Miscible in water and alcohol

**Specific gravity (H<sub>2</sub>O = 1):** 0.786 g/cm<sup>3</sup>

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** High temperatures, sparks open flames and incompatible materials.

**Incompatibilities:** Alkali metals, metals, organic materials, strong oxidizing agents, amines.

**Hazardous decomposition:** not available.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eyes: Material is irritating to eyes. Skin: Data not available. Inhalation: Prolonged inhalation might produce nausea, dizziness and headache. Aspiration into lungs can cause chemical pneumonitis. Ingestion: ingested doses might produce nausea, dizziness and headache. Ingestion may affect the cardiovascular system manifested by change in heart rate, hypotension, cardiac arrhythmias and respiratory depression.

**Toxicological data:**

ORAL LD<sub>50</sub> Isopropyl alcohol: 5045mg/kg [Rat]. 3600mg/kg [Mouse]. 6410 mg/kg [Rabbit]

DERMAL LD<sub>50</sub> Isopropyl alcohol: 12800 mg/kg 4h [Rabbit].

**Carcinogenicity:**

California prop 65: Phenolphthalein

## 12. ECOLOGICAL INFORMATION

**Remarks:** Readily biodegradable. Oxidizes rapidly by photo-chemical reactions in air.

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations.

## 14. TRANSPORT INFORMATION

**UN number:** 1219

**Shipping name:** Isopropanol solution

**Hazard Class:** 3

**Packing group:** PG II

**Exceptions:** Lty Qty ≤1L

## 15. REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-661-7) isopropyl alcohol. R11- Highly flammable, R36- Irritating to eyes, R67—Vapors may cause drowsiness and dizziness.

## 16. OTHER INFORMATION

**Disclaimer:**

The Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. LAB-AIDS® makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation and verification. The data should not be confused with local, state, federal regulations, or insurance mandates, and CONSTITUTE NO WARRANTY. Any use of these data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond LAB-AIDS, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).



## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: pH 13  
 Alternative names: 0.1M Sodium Hydroxide.  
 Product Number: 81R-7EA, C81R-7

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268

**1.4 Emergency telephone number:** Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS classification

Skin Irrit. (Category 3), H316  
 Eye Irrit. (Category 2B), H320

### 2.2 Label elements, including precautionary statements

Signal word: Warning  
 Hazards statements: H316 - Causes mild skin irritation, H320 - Causes mild eye irritation.  
 Precautionary statements: P264 - Wash exposed skin thoroughly after handling, P280 - Wear protective gloves, eye protection

Pictogram:

**2.3 Hazards not otherwise classified:** none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substance:** Not applicable

### 3.2 Mixture

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS# 7732-18-5	99.6%	Not classified
Sodium hydroxide	CAS# 1310-73-2	0.4%	H312; Skin Corr. 1A H314 ; Eye Dam. 1, H318

**3.3 Chemicals where a trade secret is claimed:** None

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develop.

**4.2 Most important symptoms and effects, both acute and delayed:** Refer to section 11.

**4.3 Indication of any immediate medical attention and special treatment needed:** No additional information available.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media: Nonflammable liquid

Suitable extinguishing media: Use TriClass, dry chemical extinguisher for surrounding fires.

**5.2 Special hazard arising from the substance or mixture:** Contact with metals can generate hydrogen gas.

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** Neutralize with 0.1M Hydrochloric acid. Mop up the area.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Avoid breathing vapor. Use with adequate ventilation. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container in cool, well-ventilated area.

**7.3 Incompatibility:** Refer to section 10.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** ACGIH: TWA: 2mg/m<sup>3</sup>

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** Non should be needed if normal laboratory handling at room temperature.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid.

**Appearance:** Transparent, Colorless, Clear .

**Odor:** Not available

**pH:** Not available

**Vapor Pressure ( mm Hg):** Not available

**Vapor Density:** Not available

**Evaporation Rate:** Not available

**Viscosity:** N/A

**Flash point:** N/A

**Autoignition:** N/A

**Boiling point:** ≈100°C

**Melting point:** Not available

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Not available

**Specific gravity (H<sub>2</sub>O = 1):** ≈1 at 20°C

**Percent volatile (%):** 100%

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** High temperatures and Incompatible materials.

**Incompatibilities:** Metals, organic materials.

**Hazardous decomposition:** Sodium hydroxide reacts with metals to form flammable and explosive hydrogen gas.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eyes: Causes mild eye irritation Skin: Causes mild skin irritation. Inhalation: Not expected to cause irritation to the respiratory tract and mucous membrane. Ingestion: Causes gastrointestinal irritation.

**Toxicological data**

Acute oral toxicity ORAL LD<sub>50</sub>: Not available

Acute vapor toxicity IHL-LC<sub>50</sub>: Not available

DERMAL LD<sub>50</sub>: not available

**Carcinogenicity:**

California prop 65: Not classified

## 12. ECOLOGICAL INFORMATION

Not available.

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations, or contact with a licensed chemical disposal agency.

## 14. TRANSPORT INFORMATION

UN number: N/A

Shipping name: N/A

Hazard Class: N/A

Packing group: N/A

Exceptions: N/A

## 15. REGULATORY INFORMATION

TSCA-listed, DSCL (EEC) R36/38-irritating to eyes and skin.

## 16. OTHER INFORMATION

**Disclaimer:**

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## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: pH 3  
 Alternative names: pH 3 buffer water solution.  
 Product Number: 81R-2EA, A81R-2, C81R-2

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
 Not classified

### 2.2 Label elements, including precautionary statements

Signal word: Not classified  
 Hazards statements: Not classified  
 Precautionary statements: Not classified

Pictogram: Not classified

### 2.3 Hazards not otherwise classified: May cause eye irritation.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substance: N/A

### 3.2 Mixture: liquid

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS# 7732-18-5	99%	Not classified
Potassium Biphthalate	CAS#877-24-7	<1%	Not classified
Sulphamic acid	CAS# 5329-14-6	<1%	Skin Irrit. 2, H315; Eye Irrit. 2A H319; Aquatic Acute 3, H402, Aquatic Chronic 3, H412

### 3.3 Chemicals where a trade secret is claimed: none

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develops.

**4.2 Most important symptoms and effects, both acute and delayed:** Exposure to high concentrations may cause coughing and central nervous system depression. Dizziness. Headache.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media: Use TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Not available.

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** For small spills use paper towel.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container tightly closed in cool, well ventilated area.

**7.3 incompatibility:** Refer to section 10.



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** Not available

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** Non should be needed if normal laboratory handling at room temperature. Use self-contained breathing apparatus in high vapor concentrations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid

**Appearance:** Transparent, Colorless, Clear.

**Odor:** Not available

**pH:** 3

**Vapor Pressure ( mm Hg):** not available

**Vapor Density:** the highest known is 0.62

**Evaporation Rate:** not available

**Viscosity:** N/A

**Flash point:** N/A

**Autoignition:** N/A

**Boiling point:** The lowest know is 100°C

**Melting point:** N/A

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Miscible in water and alcohol

**Specific gravity (H<sub>2</sub>O = 1):** 1.011 at 20°C

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Conditions to Avoid:** Incompatibles.

**Incompatibilities:** Chlorine, Hypochlorous acid, Hypochlorites, Sulfides.

**Hazardous decomposition:** Not available.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: May cause eye irritation. Skin: May cause skin irritation. Inhalation: Not expected to cause any acute effects. Ingestion: May cause gastrointestinal irritation.

**Toxicological data:**

Acute oral toxicity ORAL LD<sub>50</sub>: 3160mg/kg [Rat], as sulphamic acid

Acute oral toxicity ORAL LD<sub>50</sub>: 3200mg/kg [Rat], as potassium biphthalate

Acute vapor toxicity IHL-LC<sub>50</sub>: Not available

DERMAL LD<sub>50</sub>: Not available

**Carcinogenicity:**

California prop 65: Not classified

## 12. ECOLOGICAL INFORMATION

Data not available.

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations.

## 14. TRANSPORT INFORMATION

**UN number:** N/A

**Shipping name:** Not regulated

**Hazard Class:** N/A

**Packing group:** N/A

**Exceptions:** N/A

## 15. REGULATORY INFORMATION

TSCA-listed.

## 16. OTHER INFORMATION

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## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: pH 5  
 Alternative names: pH 5 buffer water solution.  
 Product Number: 81R-3EA, A81R-3, C81R-3

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
 Not classified

### 2.2 Label elements, including precautionary statements

Signal word: Not classified  
 Hazards statements: Not classified  
 Precautionary statements: Not classified

Pictogram: Not classified

**2.3 Hazards not otherwise classified:** May cause eye irritation.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substance:** N/A

**3.2 Mixture:** liquid

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS# 7732-18-5	99%	Not classified
Potassium Biphthalate	CAS#877-24-7	<1%	Not classified
Sodium phosphate Diabasic	CAS# 7558-79-4	<1%	Not classified

**3.3 Chemicals where a trade secret is claimed:** none

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develops.

**4.2 Most important symptoms and effects, both acute and delayed:** Exposure to high concentrations may cause coughing and central nervous system depression. Dizziness. Headache.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media: Use TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Not available.

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** For small spills use paper towel.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container tightly closed in cool, well ventilated area.

**7.3 incompatibility:** Refer to section 10.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** Not available

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** Non should be needed if normal laboratory handling at room temperature. Use self-contained breathing apparatus in high vapor concentrations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid

**Appearance:** Transparent, Colorless, Clear.

**Odor:** Not available

**pH:** 5

**Vapor Pressure ( mm Hg):** not available

**Vapor Density:** the highest known is 0.62

**Evaporation Rate:** not available

**Viscosity:** N/A

**Flash point:** N/A

**Autoignition:** N/A

**Boiling point:** The lowest know is 100°C

**Melting point:** N/A

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Miscible in water and alcohol

**Specific gravity (H<sub>2</sub>O = 1):** 1.011 at 20°C

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Conditions to Avoid:** Incompatibles.

**Incompatibilities:** Chlorine, Hypochlorous acid, Hypochlorites, Sulfides.

**Hazardous decomposition:** Not available.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: May cause eye irritation. Skin: May cause skin irritation. Inhalation: Not expected to cause any acute effects. Ingestion: May cause gastrointestinal irritation.

**Toxicological data:**

Acute oral toxicity ORAL LD<sub>50</sub>: 17000mg/kg [Rat], as sodium phosphate

Acute oral toxicity ORAL LD<sub>50</sub>: 3200mg/kg [Rat], as potassium biphtalate

Acute vapor toxicity IHL-LC<sub>50</sub>: Not available

DERMAL LD<sub>50</sub>: Not available

**Carcinogenicity:**

California prop 65: Not classified

## 12. ECOLOGICAL INFORMATION

Data not available.

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations.

## 14. TRANSPORT INFORMATION

**UN number:** N/A

**Shipping name:** Not regulated

**Hazard Class:** N/A

**Packing group:** N/A

**Exceptions:** N/A

## 15. REGULATORY INFORMATION

TSCA-listed.

## 16. OTHER INFORMATION

**Disclaimer:**

The Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. LAB-AIDS® makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation and verification. The data should not be confused with local, state, federal regulations, or insurance mandates, and CONSTITUTE NO WARRANTY. Any use of these data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond LAB-AIDS, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).



## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: pH 7  
 Alternative names: pH 7 buffer water solution.  
 Product Number: 81R-4EA, A81R-4, C81R-4

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
 Not classified

### 2.2 Label elements, including precautionary statements

Signal word: Not classified  
 Hazards statements: Not classified  
 Precautionary statements: Not classified

Pictogram: Not classified

2.3 Hazards not otherwise classified: None.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance: N/A

3.2 Mixture: liquid

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS# 7732-18-5	99%	Not classified
Potassium phosphate monobasic	CAS# 7778-77-0	<1%	Not classified
Sodium phosphate Dibasic	CAS# 7558-79-4	<1%	Not classified

3.3 Chemicals where a trade secret is claimed: none

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develops.

**4.2 Most important symptoms and effects, both acute and delayed:** Exposure to high concentrations may cause coughing and central nervous system depression. Dizziness. Headache.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media: Use TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Not available.

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** For small spills use paper towel.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container tightly closed in cool, well ventilated area.

**7.3 Incompatibility:** Refer to section 10.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** Not available

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** Non should be needed if normal laboratory handling at room temperature. Use self-contained breathing apparatus in high vapor concentrations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid

**Appearance:** Transparent, Colorless, Clear.

**Odor:** Not available

**pH:** 7

**Vapor Pressure ( mm Hg):** not available

**Vapor Density:** the highest known is 0.62

**Evaporation Rate:** not available

**Viscosity:** N/A

**Flash point:** N/A

**Autoignition:** N/A

**Boiling point:** The lowest know is 100°C

**Melting point:** N/A

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Miscible in water and alcohol

**Specific gravity (H<sub>2</sub>O = 1):** 1.011 at 20°C

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Conditions to Avoid:** Incompatibles.

**Incompatibilities:** Chlorine, Hypochlorous acid, Hypochlorites, Sulfides.

**Hazardous decomposition:** Not available.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: Not available. Skin: Not expected to cause skin irritation. Inhalation: Not expected to cause any acute effects. Ingestion: Not available.

**Toxicological data:**

Acute oral toxicity ORAL LD<sub>50</sub>: 17000mg/kg [Rat], as sodium phosphate

Acute oral toxicity ORAL LD<sub>50</sub>: 1700mg/kg [Mouse], as potassium phosphate

Acute vapor toxicity IHL-LC<sub>50</sub>: Not available

DERMAL LD<sub>50</sub>: 4640mg/kg [Rat], as potassium phosphate

**Carcinogenicity:**

California prop 65: Not classified

## 12. ECOLOGICAL INFORMATION

Data not available.

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations.

## 14. TRANSPORT INFORMATION

**UN number:** N/A

**Shipping name:** Not regulated

**Hazard Class:** N/A

**Packing group:** N/A

**Exceptions:** N/A

## 15. REGULATORY INFORMATION

TSCA-listed.

## 16. OTHER INFORMATION

**Disclaimer:**

The Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. LAB-AIDS® makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation and verification. The data should not be confused with local, state, federal regulations, or insurance mandates, and CONSTITUTE NO WARRANTY. Any use of these data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond LAB-AIDS, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).



## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: pH 9  
 Alternative names: pH 9 buffer water solution.  
 Product Number: 81R-5EA, A81R-5, C81R-5

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
 Not classified

### 2.2 Label elements, including precautionary statements

Signal word: Not classified  
 Hazards statements: Not classified  
 Precautionary statements: Not classified

Pictogram: Not classified

**2.3 Hazards not otherwise classified:** May cause eye irritation.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance: N/A

3.2 Mixture: liquid

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS# 7732-18-5	99%	Not classified
Sodium carbonate	CAS# 497-19-8	<1%	Eye Irrit. 2A, H319
Sodium bicarbonate	CAS# 144-55-8	<1%	Not classified

3.3 Chemicals where a trade secret is claimed: none

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develops.

**4.2 Most important symptoms and effects, both acute and delayed:** Exposure to high concentrations may cause coughing and central nervous system depression. Dizziness. Headache.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media: Use TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Not available.

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** For small spills use paper towel.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container tightly closed in cool, well ventilated area.

**7.3 incompatibility:** Refer to section 10.



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** Not available

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** Non should be needed if normal laboratory handling at room temperature. Use self-contained breathing apparatus in high vapor concentrations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid

**Appearance:** Transparent, Colorless, Clear.

**Odor:** Not available

**pH:** 9

**Vapor Pressure ( mm Hg):** not available

**Vapor Density:** the highest known is 0.62

**Evaporation Rate:** not available

**Viscosity:** N/A

**Flash point:** N/A

**Autoignition:** N/A

**Boiling point:** The lowest know is 100°C

**Melting point:** N/A

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Miscible in water and alcohol

**Specific gravity (H<sub>2</sub>O = 1):** 1.011 at 20°C

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Conditions to Avoid:** Incompatibles.

**Incompatibilities:** Strong acids, aluminum, fluorine, phosphorus pentoxide, ammonium phosphate monobasic.

**Hazardous decomposition:** Not available.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: May cause eye irritation. Skin: May cause skin irritation. Inhalation: Not expected to cause any acute effects. Ingestion: May cause gastrointestinal irritation.

**Toxicological data:**

Acute oral toxicity ORAL LD<sub>50</sub>: 4090mg/kg [Rat], as sodium carbonate

Acute oral toxicity ORAL LD<sub>50</sub>: 4220mg/kg [Rat], as sodium bicarbonate

Acute vapor toxicity IHL-LC<sub>50</sub>: Not available

DERMAL LD<sub>50</sub>: Not available

**Carcinogenicity:**

California prop 65: Not classified

## 12. ECOLOGICAL INFORMATION

Data not available.

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations.

## 14. TRANSPORT INFORMATION

**UN number:** N/A

**Shipping name:** Not regulated

**Hazard Class:** N/A

**Packing group:** N/A

**Exceptions:** N/A

## 15. REGULATORY INFORMATION

TSCA-listed.

## 16. OTHER INFORMATION

**Disclaimer:**

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## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: pH 11  
Alternative names: pH 11 buffer water solution.  
Product Number: 81R-6EA, A81R-6, C81R-6

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
Telephone: +1 800 381 8003.  
Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
Not classified

### 2.2 Label elements, including precautionary statements

Signal word: Not classified  
Hazards statements: Not classified  
Precautionary statements: Not classified

Pictogram: Not classified

**2.3 Hazards not otherwise classified:** May cause eye irritation.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substance:** N/A

**3.2 Mixture:** liquid

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS# 7732-18-5	99%	Not classified
Sodium phosphate tribasic	CAS# 7601-54-9	<1%	Skin Irrit. 2, H315; Eye Irrit. 2A H319; STOT SE, 3, H335
Sodium phosphate dibasic	CAS# 7558-79-4	<1%	Not classified

**3.3 Chemicals where a trade secret is claimed:** none

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develops.

**4.2 Most important symptoms and effects, both acute and delayed:** Exposure to high concentrations may cause coughing and central nervous system depression. Dizziness. Headache.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media: Use TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Not available.

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** For small spills use paper towel.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container tightly closed in cool, well ventilated area.

**7.3 Incompatibility:** Refer to section 10.



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** Not available

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** Non should be needed if normal laboratory handling at room temperature. Use self-contained breathing apparatus in high vapor concentrations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid

**Appearance:** Transparent, Colorless, Clear.

**Odor:** Not available

**pH:** 11

**Vapor Pressure ( mm Hg):** not available

**Vapor Density:** the highest known is 0.62

**Evaporation Rate:** not available

**Viscosity:** N/A

**Flash point:** N/A

**Autoignition:** N/A

**Boiling point:** The lowest know is 100°C

**Melting point:** N/A

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Miscible in water and alcohol

**Specific gravity (H<sub>2</sub>O = 1):** 1.011 at 20°C

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable.

**Conditions to Avoid:** Incompatibles.

**Incompatibilities:** Strong acids.

**Hazardous decomposition:** Not available.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: May cause eye irritation. Skin: May cause skin irritation. Inhalation: Not expected to cause any acute effects. Ingestion: May cause gastrointestinal irritation.

**Toxicological data:**

Acute oral toxicity ORAL LD<sub>50</sub>: 4150mg/kg [Rat], as sodium phosphate tribasic

Acute oral toxicity ORAL LD<sub>50</sub>: 17000mg/kg [Rat], as sodium phosphate dibasic

Acute vapor toxicity IHL-LC<sub>50</sub>: Not available

DERMAL LD<sub>50</sub>: Not available

**Carcinogenicity:**

California prop 65: Not classified

## 12. ECOLOGICAL INFORMATION

Data not available.

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations.

## 14. TRANSPORT INFORMATION

**UN number:** N/A

**Shipping name:** Not regulated

**Hazard Class:** N/A

**Packing group:** N/A

**Exceptions:** N/A

## 15. REGULATORY INFORMATION

TSCA-listed.

## 16. OTHER INFORMATION

**Disclaimer:**

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## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: Methyl Orange, 0.1%  
 Alternative names: pH indicator.  
 Product Number: 81R-8EA, A81R-8, C81R-8, NAC-W0124xx.

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses: For laboratory and educational use only.

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA.  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268.

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
 Not classified

### 2.2 Label elements, including precautionary statements

Signal word: Not classified  
 Hazards statements: Not classified  
 Precautionary statements: Not classified  
**2.3 Hazards not otherwise classified:** May be harmful if swallowed

Pictogram: Not classified

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substance:** Not applicable

### 3.2 Mixture:

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS 7732-18-5	>99%	Not classified
Methyl orange	CAS# 547-58-0	0.1%	Acute Tox. 3, H301

**3.3 Chemicals where a trade secret is claimed:** none

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develops.

**4.2 Most important symptoms and effects, both acute and delayed:** Refer to section 11.

**4.3 Indication of any immediate medical attention and special treatment needed:** No additional information available.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media:

Suitable extinguishing media: Use water spray, alcohol-resistant foam, or TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Not available

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** Contain the spill with an inert absorbent material and deposit in a sealed container. For small spill use paper towel. Dry material place in trash. Ventilate and wash spill area with soap and water.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Use hood or with adequate ventilation. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container in cool, well-ventilated area.

**7.3 incompatibility:** Refer to section 10.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** ACGIH: None

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** Non should be needed if normal laboratory handling at room temperature.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid

**Appearance:** Orange.

**Odor:** Not available

**pH:** Not available

**Vapor Pressure ( mm Hg):** not available

**Vapor Density:** the highest known is 0.62

**Evaporation Rate:** not available

**Viscosity:** Not available

**Flash point:** Not available

**Autoignition:** Not applicable.

**Boiling point:** The lowest know is 100°C

**Melting point:** N/A

**Freezing point:** Not available

**Decomposition temp:** not available

**Solubility:** Miscible in water and alcohol

**Specific gravity (H<sub>2</sub>O = 1):** 1.011 at 20°C

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** Not available

**Incompatibilities:** Oxidizing agents

**Hazardous decomposition:** Carbon oxides.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: May cause eye irritation. Skin: Data not available. Inhalation: Inhalation Not expected to cause any acute reaction. Ingestion: May be harmful if swallowed.

**Toxicological data:**

ORAL LD<sub>50</sub>: 60mg/kg [Rat] (methyl orange)

INHALATION LC<sub>50</sub>: Not available

DERMAL LD<sub>50</sub>: Not available

**Carcinogenicity:**

California prop 65: Not listed

## 12. ECOLOGICAL INFORMATION

No data available.

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations, or contact with a licensed chemical disposal agency.

## 14. TRANSPORT INFORMATION

UN number: N/A

Shipping name: Not regulated

Hazard Class: N/A

Packing group: N/A

Exceptions: N/A

## 15. REGULATORY INFORMATION

TSCA-listed,

## 16. OTHER INFORMATION

**Disclaimer:**

The Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. LAB-AIDS® makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation and verification. The data should not be confused with local, state, federal regulations, or insurance mandates, and CONSTITUTE NO WARRANTY. Any use of these data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond LAB-AIDS, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).



## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: Universal Indicator  
Alternative names: Universal Indicator alcohol based solution.  
Product Number: 81R-11EA, A81R-11, C81R-11, 19-21EA, A19-21, C19-21

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
Telephone: +1 800 381 8003.  
Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS classification:

Flam. Liq. (Category 2), H225; Carcinogenicity (Category 2), H351  
Eye Irrit. (Category 2A) H319; Acute Tox., Oral, (Category 4), H302  
Acute Tox. Inhalation, (Category 4), H332; Acute Tox. Dermal (Category 4), 312  
Specific Target Organ Toxicity, Single Exposure, Oral (Category 3), H336

### 2.2 Label elements, including precautionary statements:

Signal word: Danger

#### Hazards statements:

H225 - Highly flammable liquid and vapor, H336-- May cause drowsiness or dizziness, H351-Suspected of causing cancer, H319- Causes serious eye irritation, H302-Harmful if swallowed, H312-Harmful in contact with skin, H332-Harful if inhaled.  
Precautionary statements: P210 - Keep away from heat, hot surfaces, open flames, sparks, P280 - Wear protective gloves, eye protection, P301+P312+P330-IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

### 2.3 Hazards not otherwise classified:

None.



Pictogram:

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substance: Not applicable

### 3.2 Mixture:

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS 7732-18-5	52.6%	Not classified
Ethyl alcohol	CAS# 64-17-5	41.8%	Flam. Liq. 2, H225; STOT SE 3, H336; Eye Irrit. 2A, H319
Methanol	CAS# 67-56-1	2.4%	Flam. Liq. 2, H225; Acute Tox. 3, H301+H302+H303
Ethyl Acetate	CAS# 141-78-6	1.8%	Flam. Liq. 2, H225; Skin Irrit. 2, H315; Eye Irrit. 2A, H319
Methyl isobutyl ketone	CAS# 108-10-1	0.4%	Flam. Liq. 2, H225; Eye Irrit. 2A, H319; Carc. 2, H351
Universal Indicator	Trade Secret	0.5-1%	Eye Irrit. 2A, H319, STOT SE 3, H335

**3.3 Chemicals where a trade secret is claimed:** Any concentration shown as a range is to protect confidentiality, or is it due to batch variation

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develop.

**4.2 Most important symptoms and effects, both acute and delayed:** Refer to section 11.

**4.3 Indication of any immediate medical attention and special treatment needed:** No additional information available.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media: Flammable liquid.

Suitable extinguishing media: Use water spray, alcohol-resistant foam, or TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Vapor spreads at floor level. Flash back possible over considerable distance.

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** Contain the spill with an inert absorbent material and deposit in a sealed container. For small spill use paper towel. Dry material place in trash. Ventilate and wash spill area with soap and water.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Keep away from heat, sparks and flame. Vapor forms from this product and may travel, or be moved by air currents and ignited by pilot lights, static discharges, flames, sparks, heaters or other ignition sources. Ensure all equipment is electrically grounded before beginning transfer operations.

Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Avoid breathing vapor. Use hood or with adequate ventilation. Wash hands thoroughly after handling.

**7.2 Storage:** Flammable cabinet. Keep container in cool, well-ventilated area.

**7.3 incompatibility:** Refer to section 10.



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** ACGIH: TWA: 400ppm (Ethyl Acetate); USA OSHA: TWA: 200ppm (Methanol); ACGIH: TWA: 1000ppm (Ethanol).

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** None should be needed if normal laboratory handling at room temperature.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid.

**Appearance:** Green or red orange.

**Odor:** Strong alcohol odor

**pH:** Not available

**Vapor Pressure ( mm Hg):** 66.661hPa

**Vapor Density:** Not available

**Evaporation Rate:** Not available

**Viscosity:** Not available

**Flash point:** 13 °C (55 °F)

**Autoignition:** ca. 400 °C, 752 °F; ASTM D 2155

**Flammability:** Explosion limits: Lower: 3.3% Upper: 19.0%

**Boiling point:** 74-80 °C (165.2-176 °F)

**Melting point:** -114°C (-173° F)

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Miscible in water and many organic solvents

**Specific gravity (H<sub>2</sub>O = 1):** 0.79 g/cm<sup>3</sup> @ 15.5 °C, 60 °F

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** High temperatures, sparks open flames and incompatible materials.

**Incompatibilities:** Strong oxidizing agents, acids, peroxides, acid chlorides, acid anhydrides, alkali metals, ammonia.

**Hazardous decomposition:** N/A

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: Causes eye irritation. Skin: May cause mild skin irritation. May be absorbed through skin. Inhalation: Inhalation of high concentration may affect CNS characterized by headache, dizziness, confusion, and loss of coordination. Ingestion: May be harmful if swallowed. Ingested doses will produce nausea, dizziness and headache. May affect behavior, brain, CNS.

**Toxicological data:**

ORAL LD<sub>50</sub>: 2000mg/kg [Rat] (Ethanol)

VAPOR LC<sub>50</sub>: >20 mg/l [Mouse] 4h (Ethanol)

DERMAL LD<sub>50</sub>: >2000mg/kg [Rabbit] (Ethanol)

ORAL LD<sub>50</sub>Methyl alcohol: >50-300 mg/kg [Rat].

VAPOR LC<sub>50</sub>Methyl alcohol: >2-10 mg/l [Rat].

DERMAL LD<sub>50</sub>Methyl alcohol: >200-1000 mg/kg [Rabbit]

ORAL LD<sub>50</sub>: >2000mg/kg [Rat] (Ethyl Acetate)

VAPOR LC<sub>50</sub>: Not available

DERMAL LD<sub>50</sub>: >2000mg/kg [Rabbit] (Ethyl Acetate)

ORAL LD<sub>50</sub>MIBK: >2000 mg/kg [Rat].

VAPOR LC<sub>50</sub>MIBK: >10-20 mg/l 4h [Rat].

DERMAL LD<sub>50</sub>MIBK: >2000 mg/kg [Rabbit]

**Carcinogenicity:**

California prop 65: Methanol, Methyl isobutyl ketone.

## 12. ECOLOGICAL INFORMATION

LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 100 mg/l; flow-through test Test substance: Ethanol;

LC50 (Pimephales promelas (fathead minnow)) 96 hours: 29,400 mg/l Test substance: Methanol;

LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 100 mg/l; semi-static test Test substance: Ethyl Acetate;

LC50 (Danio rerio (zebra fish)) 96 hours: > 100 mg/l; static test, Test substance MIBK

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations, or contact with a licensed chemical disposal agency.

## 14. TRANSPORT INFORMATION

UN number: 1987

NA: N/A

Shipping name: ALCOHOLS, NOS

Hazard Class: 3

Packing group: PG II

Exceptions: Lty Qty ≤1L

## 15. REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-578-6) ethanol, (200-659-6) methanol, (205-500-5) Ethyl Acetate, (203-550-1) MIBK. WHMIS (Canada): Class E, Division 2: Flammable liquid. Class D, Division 2, Subdivision A: Very toxic material. Class D, Division 2, Subdivision B: Toxic material.

## 16. OTHER INFORMATION

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## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: Unknown I  
Alternative names: Boric acid water solution.  
Product Number: 81R-12EA, A81R-12, C81R-12

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
Telephone: +1 800 381 8003.  
Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
Reproductive toxicity. (Category 2), H361

### 2.2 Label elements, including precautionary statements

Signal word: Warning  
Hazards statements: H361 - Suspected of damaging fertility or the unborn child.  
Precautionary statements: P264 - Wash exposed skin thoroughly after handling, P280 - Wear protective gloves, eye protection.  
2.3 Hazards not otherwise classified: May cause eye irritation



Pictogram:

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance: Not applicable

### 3.2 Mixture:

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS 7732-18-5	>99%	Not classified
Boric acid	CAS# 100-35-3	<1%	Repr. 2, H361

3.3 Chemicals where a trade secret is claimed: none

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develop.

**4.2 Most important symptoms and effects, both acute and delayed:** Refer to section 11.

**4.3 Indication of any immediate medical attention and special treatment needed:** No additional information available.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media:

Suitable extinguishing media: Use water spray, alcohol-resistant foam, or TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Not available

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** Contain the spill with an inert absorbent material and deposit in a sealed container. For small spill use paper towel. Dry material place in trash. Ventilate and wash spill area with soap and water.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Use hood or with adequate ventilation. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container in cool, well-ventilated area.

**7.3 incompatibility:** Refer to section 10.



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** ACGIH: STEL: 6mg/m<sup>3</sup> inhalable fraction for a solid boric acid.

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** None should be needed if normal laboratory handling at room temperature.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid

**Appearance:** Transparent, Colorless, Clear.

**Odor:** Not available

**pH:** ~5

**Vapor Pressure (mm Hg):** not available

**Vapor Density:** the highest known is 0.62

**Evaporation Rate:** not available

**Viscosity:** Not available

**Flash point:** Not available

**Autoignition:** Not applicable.

**Boiling point:** The lowest known is 100°C

**Melting point:** N/A

**Freezing point:** Not available

**Decomposition temp:** not available

**Solubility:** Miscible in water and alcohol

**Specific gravity (H<sub>2</sub>O = 1):** 1.011 at 20°C

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** Not available

**Incompatibilities:** Potassium, Alkalies

**Hazardous decomposition:** Not available

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: May cause eye irritation. Skin: Data not available. Inhalation: Inhalation Not expected to cause any acute reaction. Ingestion: May be harmful if swallowed.

**Toxicological data:**

ORAL LD<sub>50</sub>: 2660mg/kg [Rat] (boric acid)

INHALATION LC<sub>50</sub>: >2.0 mg/l [Rat] 4h (boric acid)

DERMAL LD<sub>50</sub>: >2000mg/kg [Rabbit] (boric acid)

**Carcinogenicity:**

California prop 65: Not listed

## 12. ECOLOGICAL INFORMATION

EC50 Daphnia magna (water flea) 48 hours: 115-153 mg/l for boric acid

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations, or contact with a licensed chemical disposal agency.

## 14. TRANSPORT INFORMATION

UN number: N/A

Shipping name: Not regulated

Hazard Class: N/A

Packing group: N/A

Exceptions: N/A

## 15. REGULATORY INFORMATION

TSCA-listed,

## 16. OTHER INFORMATION

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## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: Unknown II  
 Alternative names: Acetic acid water solution  
 Product Number: 81R-13EA, A81R-13, C81R-13

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
 Not classified

### 2.2 Label elements, including precautionary statements

Signal word: Not classified  
 Hazards statements: Not classified  
 Precautionary statements: Not classified

Pictogram: Not classified

**2.3 Hazards not otherwise classified:** May cause eye irritation

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substance:** Not applicable

### 3.2 Mixture:

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS#7732-18-5	>99%	Not classified
Acetic acid	CAS# 64-19-7	<1%	Flam. Liq. 3, H226; Skin Corr. 1A H314; Eye Dam. 2, H318

**3.3 Chemicals where a trade secret is claimed:**

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get medical attention if necessary.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develops.

**4.2 Most important symptoms and effects, both acute and delayed:** Refer to section 11.

**4.3 Indication of any immediate medical attention and special treatment needed:** No additional information available.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media:

Suitable extinguishing media: Use water spray, alcohol-resistant foam, or TriClass, dry chemical extinguisher.

**5.2 Special hazard arising from the substance or mixture:** Not available

**5.3 Advice for firefighters:** Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions:** Wear laboratory grade gloves, eye protection and a lab coat.

**6.2 Emergency procedures:** Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** Mop up the area. For small spill use paper towel. Ventilate and wash spill area with soap and water.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Keep away from heat. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Avoid breathing vapor. Use hood or with adequate ventilation. Wash hands thoroughly after handling.

**7.2 Storage:** Keep container tightly closed in cool, well-ventilated area.

**7.3 incompatibility:** Refer to section 10.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** ACGIH: TWA: 10 ppm (acetic acid)

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** None should be needed if normal laboratory handling at room temperature.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid.

**Appearance:** Clear, colorless.

**Odor:** Mild vinegar

**pH:** Not available

**Vapor Pressure (mm Hg):** Not available

**Vapor Density:** Not available

**Evaporation Rate:** Not available

**Viscosity:** Not available

**Flash point:** Not available

**Autoignition:** Not available

**Flammability:** Not available

**Boiling point:** Not available

**Melting point:** Not available

**Freezing point:** Not available

**Decomposition temp:** Not available

**Solubility:** Miscible in water

**Specific gravity (H<sub>2</sub>O = 1):** Not available

**Percent volatile (%):** Not available

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** High temperatures and incompatible materials.

**Incompatibilities:** strong oxidizing agents, chromic and nitric acid, sulfuric acid, caustic soda, lime and strong alkalis, metals, hydroxides, peroxides, amines.

**Hazardous decomposition:** not available.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: May Cause eye irritation. Skin: Not expected to cause any acute reactions. Inhalation: Not expected to cause any acute reactions. Ingestion: Data not available.

**Toxicological data:**

ORAL LD<sub>50</sub>: 3320mg/kg [Rat] (acetic acid)

VAPOR LC<sub>50</sub>: >16000 ppm [Rat] 4h (acetic acid)

DERMAL LD<sub>50</sub>: 1060mg/kg [Rabbit] (acetic acid)

**Carcinogenicity:**

California prop 65: Not classified

## 12. ECOLOGICAL INFORMATION

LC50 (Pimephales promelas (fathead minnow)) 96 hours: 300.82 mg/l

EC50 (Daphnia) 48 hours: >300.82 mg/l

96% (20d) Readily biodegradable

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations, or contact with a licensed chemical disposal agency.

## 14. TRANSPORT INFORMATION

**UN number:** N/A

**Shipping name:** Not regulated

**Hazard Class:** N/A

**Packing group:** N/A

**Exceptions:** Ltd Qty. N/A

## 15. REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-580-7)

## 16. OTHER INFORMATION

**Disclaimer:**

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## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: pH 1  
 Alternative names: Hydrochloric Acid, 0.2M, Hydrochloric acid water solution.  
 Product Number: 81R-1EA, A81R-1, C81R-1

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: LAB-AIDS®, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003.  
 Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS classification

Corrosive to metals (Category 1), H290  
 Skin Corr. (Category 1A) H314  
 Eye Dam. (Category 1) H318

### 2.2 Label elements, including precautionary statements

Signal word: **Danger**  
 Hazards statements: H290 - May be corrosive to metals, H314- Causes severe skin burns and eye damage. H318- Causes serious eye damage.  
 Precautionary statements: P280 - Wear protective gloves, eye protection, P264 - Wash exposed skin thoroughly after handling.  
**2.3 Hazards not otherwise classified: none**



Pictogram:

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substance: Not applicable

### 3.2 Mixture:

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS# 7732-18-5	99.33%	Not classified
Hydrochloric acid	CAS# 7647-01-0	0.67%	Acute Tox. 4, H302; Skin Corr. 1A H314; Eye Dam. 1, H318; STOT SE 3, H335

### 3.3 Chemicals where a trade secret is claimed: none

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical attention.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek immediate medical attention.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if irritation or burns develop.

### 4.2 Most important symptoms and effects, both acute and delayed: Refer to section 11.

### 4.3 Indication of any immediate medical attention and special treatment needed: No additional information available.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media: Not flammable

Suitable extinguishing media: Use water spray, alcohol-resistant foam, or TriClass, dry chemical extinguisher.

### 5.2 Special hazard arising from the substance or mixture: Thermal decompositions generates corrosive vapors.

### 5.3 Advice for firefighters: Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions: Wear laboratory grade gloves, eye protection and a lab coat.

### 6.2 Emergency procedures: Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** Contain the spill with an inert absorbent material and deposit in a sealed container. Dispose of in accordance with you local regulations. Small spills neutralize with acid neutralizer, or sodium hydroxide solution and mop up the area. Ventilate and wash spill area with soap and water.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food, or household use. Use only under adult supervision. Avoid breathing vapor. Use hood or with adequate ventilation. Wash hands thoroughly after handling.

### 7.2 Storage: Acid cabinet. Keep container tightly closed in cool, well-ventilated area.

### 7.3 incompatibility: Refer to section 10.



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** ACGIH: TWA: 2 ppm (hydrochloric acid)

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** None should be needed if normal laboratory handling at room temperature.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid.

**Appearance:** Colorless to slightly yellow.

**Odor:** Pungent

**pH:** <2

**Vapor Pressure (mm Hg):** Not available

**Vapor Density:** Not available

**Evaporation Rate:** Not available

**Viscosity:** Not available

**Flash point:** 537.2 °C (hydrochloric acid)

**Autoignition:** Not available

**Flammability:** Not available

**Boiling point:** 37.08°C estimated (hydrochloric acid)

**Melting point:** -114.22°C (-173.6° F)

**Freezing point:** 3.33°C (38° F)

**Decomposition temp:** Not available

**Solubility:** Miscible in water

**Specific gravity (H<sub>2</sub>O = 1):** 1.18 g/cm<sup>3</sup> @ 25°C (hydrochloric acid)

**Percent volatile (%):** 66% estimated (hydrochloric acid)

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** Incompatible materials.

**Incompatibilities:** Alkali metals, metals, organic materials, strong oxidizing agents, amines.

**Hazardous decomposition:** Not available.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: Causes severe eye burns and eye damage. Skin: Causes severe skin burns. Inhalation: May cause respiratory track irritation. Ingestion: Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract.

**Acute oral toxicity ORAL LD<sub>50</sub>:** 900mg/kg [Rabbit], as hydrochloric acid

**Acute vapor toxicity IHL-LC<sub>50</sub>:** 3124ppm [Rat]/1h, as hydrochloric acid

**DERMAL LD<sub>50</sub>:** 1449mg/kg [Mouse], as hydrochloric acid

**Carcinogenicity:**

California prop 65: None

## 12. ECOLOGICAL INFORMATION

**LC50 (Gambusia affinis) 96 hours:** 282 mg/l (hydrochloric acid)

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations, or contact with a licensed chemical disposal agency.

## 14. TRANSPORT INFORMATION

**UN number:** 1789

**Shipping name:** Hydrochloric acid

**Hazard Class:** 8

**Packing group:** PG III

**Exceptions:** Ltd Qty. ≤5L

## 15. REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-595-7). WHMIS (Canada): CLASS E: Corrosive liquid. DSCL (EEC) R34-Causes burns.

## 16. OTHER INFORMATION

**Disclaimer:**

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## 1. IDENTIFICATION

### 1.1 Product Identifiers

Product Name: Unknown III  
 Alternative names: Sodium carbonate water solution  
 Product Number: 81R-14EA, A81R-14, C81R-14

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses: For laboratory and educational use only

### 1.3 Details of the supplier of the safety data sheet

Company: Lab-Aids, Inc, 17 Colt Ct., Ronkonkoma, NY 11779, USA  
 Telephone: +1 800 381 8003  
 Fax: +1 631 820 8268

### 1.4 Emergency telephone number

Emergency number: CHEMTREC 1 800 424-9300

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

GHS classification  
 Not classified

### 2.2 Label elements, including precautionary statements

Signal word: Not classified  
 Hazards statements: Not classified  
 Precautionary statements: Not classified

Pictogram:

### 2.3 Hazards not otherwise classified: May cause eye irritation

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substance: N/A

### 3.2 Mixture: Yes

Chemical Name	Product identifier	%	GHS-US classification
Water	CAS# 7732-18-5	>99%	Not classified
Sodium Carbonate	CAS# 497-19-8	<1%	Eye Irrit. 2A, H319

### 3.3 Chemicals where a trade secret is claimed: none

## 4. FIRST AID MEASURE

### 4.1 Description of the first aid measure:

**INGESTION:** Never give anything by mouth to unconscious person. Rinse mouth and get conscious person drink a glass of milk or water. Do NOT induce vomiting unless directed to do so by medical personnel. Get medical attention if necessary.

**INHALATION:** Remove to fresh air. Get medical attention if necessary.

**EYE CONTACT:** Wash immediately with plenty of water, and continue washing for at least 15min., occasionally lifting upper and lower eyelids. Seek medical attention if necessary.

**SKIN CONTACT:** Flush thoroughly with mild soap and water. Remove contaminated clothing. Get medical attention if necessary.

### 4.2 Most important symptoms and effects, both acute and delayed: Refer to section 11.

### 4.3 Indication of any immediate medical attention and special treatment needed: No additional information available.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media: Not flammable

Suitable extinguishing media: Use extinguishing methods for surrounding fires.

### 5.2 Special hazard arising from the substance or mixture: Sodium oxides.

### 5.3 Advice for firefighters: Use self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions: Wear laboratory grade gloves, eye protection and a lab coat.

### 6.2 Emergency procedures: Restrict unprotected personnel from the area.

**6.3 Methods and material used for containment and cleanup procedure:** Contain the spill with an inert absorbent material and deposit in a suitable container. For small spill use paper towel. Place the wet medium in trash. Ventilate and wash spill area with soap and water.

## 7. HANDLING AND STORAGE

**7.1 Precaution for safe handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Use only under adult supervision. Wash hands thoroughly after handling.

### 7.2 Storage: Keep container in cool, well-ventilated area. Keep It tightly closed.

### 7.3 incompatibility: Refer to section 10.



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:** ACGIH: not available.

**8.2 Exposure controls:** Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits.

**Respiratory protection:** Non should be needed if normal laboratory handling at room temperature.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid

**Appearance:** Transparent, Colorless, Clear.

**Odor:** No odor

**pH:** Not available

**Vapor Pressure ( mm Hg):** 2.3kPa at 20 °C

**Vapor Density:** 0.63 (Air=1)

**Evaporation Rate:** not available

**Viscosity:** not available

**Flash point:** Not available

**Autoignition:** Not available

**Boiling point:** 212°F/100°C

**Melting point:** ~0 °C/32 °F

**Freezing point:** 0 °C/32 °F

**Decomposition temp:** not available

**Solubility:** Miscible.

**Specific gravity (H<sub>2</sub>O = 1):** 1.01 at 20°C

**Percent volatile (%):** 100 Wt%

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** High temperatures, and incompatible materials.

**Incompatibilities:** acids, ammonia and silver nitrate, hydrogen peroxide, sodium sulfide.

**Hazardous decomposition:** Sodium Carbonate is decomposed by acids with effervescence. Sodium Carbonate begins to decompose at 400°C to evolve Carbon dioxide.

**Hazardous polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute effects:** Eye: May causes mild eye irritations. Skin: Not expected to cause any adverse effects. Inhalation: Not expected to cause any adverse effects. Ingestion: Ingestion: Data not available.

**ORAL LD<sub>50</sub>:** 4090mg/kg [Rat]. 6600mg/kg [Mouse]

**DUST LC<sub>50</sub>:** 2300mg/m<sup>3</sup> 2h [Rat]. 1200mg/m<sup>3</sup> 2h [Mouse]

**Carcinogenicity:**

California prop 65: Not classified

## 12. ECOLOGICAL INFORMATION

LC50 Bluegill (Lepomis macrochirus) 300mg/l, 96h, EC50 Water flea (Ceriodaphnia dubia) 156-298.9 mg/l, 48h

## 13. DISPOSAL CONSIDERATION

Disposal of in accordance with all local, state, and federal regulations, or contact with a licensed chemical disposal agency.

## 14. TRANSPORT INFORMATION

**UN number:** Not available

**Shipping name:** Not controlled.

**Hazard Class:** N/A

**Packing group:** N/A

**Exceptions:** N/A

## 15. REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-791-2) water, (207-838-8) sodium carbonate.

## 16. OTHER INFORMATION

**Disclaimer:**

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