

Revision date 19-Dec-2023

Version 5

## 1. Identification

### Product identifier

**Product name** Monarch Plasmid Wash Buffer 1

### Other means of identification

**Product No** T1014

**UN/ID No** UN1993

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended use** This product is for research and development only

**Restrictions on use** No information available

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

#### Supplier Address

New England BioLabs  
240 County Road  
Ipswich, MA 01938  
USA

### Emergency telephone number

**Company Phone Number** 978-927-5054, 800-632-5227 (toll free)

**Telefax** 978-921-1350

**E-mail address** info@neb.com

**24 Hour Emergency Phone Number** Chemtrec +1 703-741-5970

## 2. Hazard(s) identification

### Classification

Flammable liquids	Category 3
Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3

### Label elements



### Danger

#### Hazard statements

Flammable liquid and vapor.

#### Precautionary Statements - Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves, protective clothing, eye protection and face protection.

Wash face, hands and any exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid breathing dust, fume, gas, mist, vapors and spray.

Use only outdoors or in a well-ventilated area.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use only non-sparking tools.

Take action to prevent static discharges.

Keep cool.

#### Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice and attention.

#### Skin

If skin irritation occurs: Get medical advice and attention.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water and then shower.

Wash contaminated clothing before reuse.

#### Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

Rinse mouth.

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish.

#### Precautionary Statements - Storage

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

**Precautionary Statements - Disposal**

Dispose of contents and container to an approved waste disposal plant.

**Other information**

May be harmful in contact with skin. May be harmful if inhaled.

**3. Composition/information on ingredients****Substance**

Not applicable.

**Mixture**

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Trade Secret	Trade secret	15 - 40	-	-
Trade Secret	Trade secret	15 - 40	-	-

**4. First-aid measures****Description of first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

**Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	May cause redness and tearing of the eyes. Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
<b>Effects of Exposure</b>	May cause cancer.

**Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Treat symptomatically.
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## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	Yes.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.
<b>Other information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### Precautions for safe handling

<b>Advice on safe handling</b>	Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment.
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**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up.

**8. Exposure controls/personal protection****Control parameters****Exposure Limits**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Trade Secret	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m <sup>3</sup> (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1225 mg/m <sup>3</sup>

Chemical name	Alberta	British Columbia	Ontario	Quebec
Trade Secret	TWA: 200 ppm TWA: 492 mg/m <sup>3</sup> STEL: 400 ppm STEL: 984 mg/m <sup>3</sup>	TWA: 200 ppm STEL: 400 ppm	TWA: 200 ppm STEL: 400 ppm	TWA: 200 ppm STEL: 400 ppm

Chemical name	Manitoba	New Brunswick	Newfoundland and Labrador	Nova Scotia
Trade Secret	TWA: 200 ppm STEL: 400 ppm	TWA: 200 ppm STEL: 400 ppm	TWA: 200 ppm STEL: 400 ppm	TWA: 200 ppm STEL: 400 ppm

Chemical name	Nunavut	Prince Edward Island	Saskatchewan	Yukon
Trade Secret	TWA: 200 ppm STEL: 400 ppm	TWA: 200 ppm STEL: 400 ppm	TWA: 200 ppm STEL: 400 ppm	TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1225 mg/m <sup>3</sup> Skin

**Biological occupational exposure limits**

Chemical name	ACGIH
Trade Secret	40 mg/L - urine (Acetone) - end of shift at end of workweek

**Appropriate engineering controls****Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

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

<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Hand protection</b>	Wear suitable gloves. Impervious gloves.
<b>Skin and body protection</b>	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>General hygiene considerations</b>	Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Colorless
<b>Color</b>	No information available
<b>Odor</b>	Alcohol
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	4.80-5.00	
<b>Melting point / freezing point</b>	No data available	None known
<b>Initial boiling point and boiling range</b>	87 °C / 188.6 °F	None known
<b>Flash point</b>	26 °C / 78.8 °F	ASTM D-93
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	No data available	None known
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	399 °C / 750.2 °F	
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

### Other information

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk density</b>	No information available

## 10. Stability and reactivity

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong acids. Strong bases. Strong oxidizing agents.
<b>Hazardous decomposition products</b>	None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness. May be harmful if inhaled.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Redness. May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
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<b>Acute toxicity</b>	Harmful if swallowed.
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#### Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (oral)</b>	1,158.00 mg/kg
<b>ATEmix (dermal)</b>	4,150.90 mg/kg
<b>ATEmix (inhalation-gas)</b>	99,999.00 ppm
<b>ATEmix (inhalation-vapor)</b>	66.8224 mg/l
<b>ATEmix (inhalation-dust/mist)</b>	99,999.00 mg/l

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Trade Secret	= 475 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	= 3.181 mg/L ( Rat ) 4 h = 7.655 mg/L ( Rat ) 4 h
Trade Secret	= 1870 mg/kg ( Rat )	= 4059 mg/kg ( Rabbit )	> 10000 ppm ( Rat ) 6 h

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Causes skin irritation. May cause skin irritation.
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<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Trade Secret	-	Group 3	-	X

#### Legend

**IARC (International Agency for Research on Cancer)**

Group 3 - Not Classifiable as to Carcinogenicity in Humans

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

X - Present

<b>Reproductive toxicity</b>	Contains a known or suspected reproductive toxin. Classification based on data available for ingredients.
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.
<b>STOT - repeated exposure</b>	No information available.
<b>Target organ effects</b>	Respiratory system, Eyes, Skin.
<b>Aspiration hazard</b>	No information available.

## 12. Ecological information

#### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Trade Secret	EC50: >1000mg/L (96h, <i>Desmodesmus subspicatus</i> ) EC50: >1000mg/L (72h, <i>Desmodesmus subspicatus</i> )	LC50: =9640mg/L (96h, <i>Pimephales promelas</i> ) LC50: =11130mg/L (96h, <i>Pimephales promelas</i> ) LC50: >1400000µg/L (96h, <i>Lepomis macrochirus</i> )	-	EC50: =13299mg/L (48h, <i>Daphnia magna</i> )

**Persistence and degradability** No information available.

#### Bioaccumulation

#### Component Information

Chemical name	Partition coefficient
Trade Secret	-1.7



Trade Secret	0.05
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**Mobility in soil** No information available.

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001.

**California waste information** This product contains one or more substances that are listed with the State of California as a hazardous waste.

### 14. Transport information

#### DOT

<b>UN/ID No</b>	UN1993
<b>Proper shipping name</b>	Flammable liquid, n.o.s.
<b>Transport hazard class(es)</b>	3
<b>Packing group</b>	II

#### TDG

#### MEX

#### ICAO (air)

#### IATA

<b>UN number or ID number</b>	UN1993
<b>Proper shipping name</b>	Flammable liquid, n.o.s.
<b>Transport hazard class(es)</b>	3
<b>Packing group</b>	II

#### IMDG

#### RID

#### ADR

#### ADN

### 15. Regulatory information

#### Regulatory information

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

**DSL/NDSL** Contact supplier for inventory compliance status.  
**EINECS/ELINCS** Contact supplier for inventory compliance status.  
**ENCS** Contact supplier for inventory compliance status.  
**IECSC** Contact supplier for inventory compliance status.  
**KECL** Contact supplier for inventory compliance status.  
**PICCS** Contact supplier for inventory compliance status.  
**AIC** Contact supplier for inventory compliance status.  
**NZIoC** Contact supplier for inventory compliance status.

#### **Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

#### US Federal Regulations

##### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Isopropyl Alcohol - 67-63-0	1.0

##### **SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

##### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

##### **CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

#### US State Regulations

##### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Trade Secret	X	X	X

#### U.S. EPA Label Information

**EPA Pesticide Registration Number** Not applicable

**16. Other information**

**NFPA** Health hazards 2 Flammability 3 Instability 0 Special hazards -  
**HMIS** Health hazards 2 \* Flammability 3 Physical hazards 0 Personal protection X  
 Chronic Hazard Star Legend \* = Chronic Health Hazard

**Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 National Institute of Technology and Evaluation (NITE)  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

**Prepared by** Environmental, Health and Safety, 978-927-5054

**Revision date** 19-Dec-2023

**Revision note** No information available.

**Disclaimer**

**IMPORTANT:** The information in this SDS is provided in good faith based on our knowledge as of the issue date (or subsequent revision date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind and we make no warranties or merchantability or fitness for a particular purpose. This information relates only to the designated product as shipped and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instructions. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable governmental requirements. Since conditions of use of the product are not under the control of New England Biolabs, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. New England Biolabs will not be liable for any damages resulting from handling or contact with the product.

**End of Safety Data Sheet**