

Revision date 07-Dec-2022

Version 1

## Section 1: Identification

### Product identifier

**Product name** Monarch® gDNA binding buffer

**Product No** T3014

### Other means of identification

**Synonyms** None

**Pure substance/mixture** Mixture

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

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

**Uses advised against** No information available.

### Details of manufacturer or importer

#### Supplier

New England BioLabs (Australia) Pty Ltd  
22/270 Ferntree Gully Road  
Notting Hill, VIC 3168

### For further information, please contact

**Contact Point** Product Safety Department

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

### Emergency telephone number

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

**Australian Poisons Information:** 131 126



## Section 2: Hazard(s) identification

### GHS Classification

Flammable liquids	Category 3
Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

### Label elements

Flame  
Exclamation mark  
Health hazard  
Corrosion



### Signal word

WARNING

### Hazard statements

Flammable liquid and vapor  
Harmful if swallowed  
May be harmful in contact with skin  
Causes serious eye damage

### Precautionary Statements - Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/clothing and eye/face protection  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Do not breathe dust/fume/gas/mist/vapors/spray  
Ground and bond container and receiving equipment  
Use non-sparking tools  
Take action to prevent static discharges  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Keep container tightly closed

### Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention  
Immediately call a doctor  
Immediately call a doctor  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]  
Wash contaminated clothing before reuse  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Immediately call a doctor  
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
Rinse mouth  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

### Precautionary Statements - Storage

Store locked up  
Store in a well-ventilated place. Keep cool

### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

### Other hazards which do not result in classification

No information available.

### Section 3: Composition and information on ingredients

Chemical name	CAS No	Weight-%
Guanidine Thiocyanate	593-84-0	40 - 50%
Trade Secret	-	0 - 10%
Non-hazardous ingredients	Proprietary	Balance

\* The exact percentage (concentration) of composition has been withheld as a trade secret.

### Section 4: First aid measures

#### Description of first aid measures

<b>General advice</b>	IF exposed or concerned: Get medical advice/attention. If symptoms persist, call a physician.
<b>Inhalation</b>	If symptoms persist, call a physician. Remove to fresh air.
<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. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

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

<b>Symptoms</b>	Prolonged contact may cause redness and irritation. Vapors may cause drowsiness and dizziness.
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#### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
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### Section 5: Firefighting measures

#### Suitable extinguishing media

<b>Suitable extinguishing media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
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<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
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<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
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#### Special exposure hazards in a fire

<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. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to
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release of irritating gases and vapors.

### **Protective equipment and precautions for firefighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## **Section 6: Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

**Personal precautions** 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. Attention! Corrosive material.

**Other information** Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

### **Environmental precautions**

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Should not be released into the environment. Do not allow to enter into soil/subsoil.

### **Methods and material for containment and cleaning up**

**Methods for containment** 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.

**Methods for cleaning up** Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

### **Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## **Section 7: Handling and storage**

### **Precautions for safe handling**

**Advice on safe handling** 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 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. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

**General hygiene considerations** 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. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

**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. Protect from moisture. Store locked up. Store away from other materials.

**Incompatible materials**

Acids. Bases. Oxidizing agent.

**Section 8: Exposure controls and personal protection****Control parameters****Exposure Limits**

Chemical name	Australia	New Zealand	ACGIH TLV
Trade Secret	TWA: 400 ppm TWA: 983 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1230 mg/m <sup>3</sup>	TWA: 400 ppm TWA: 983 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1230 mg/m <sup>3</sup>	STEL: 400 ppm TWA: 200 ppm

Chemical name	European Union	United Kingdom	Germany DFG
Trade Secret	-	TWA: 400 ppm TWA: 999 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1250 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 500 mg/m <sup>3</sup> Peak: 400 ppm Peak: 1000 mg/m <sup>3</sup>

**Biological occupational exposure limits**

Chemical name	Australia	ACGIH	European Union
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****Eye/face protection**

Tight sealing safety goggles. Face protection shield.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

**Hand protection**

Wear suitable gloves. Impervious gloves.

**Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Environmental exposure controls**

No information available.

**Thermal hazards**

No information available.

**Section 9: Physical and chemical properties****Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	Clear
Color	No information available
Odor	None.
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	8	
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	> 41 °C	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	399 °C	
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

VOC content	No information available
Particle characteristics	No information available

**Section 10: Stability and reactivity**Reactivity

Reactivity	No information available.
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Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	Yes.

Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal processing.
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Conditions to avoid

Conditions to avoid	Heat, flames and sparks. Exposure to air or moisture over prolonged periods.
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Incompatible materials

Incompatible materials	Acids. Bases. Oxidizing agent.
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Hazardous decomposition products

Hazardous decomposition products	None known based on information supplied.
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## Section 11: Toxicological information

### Acute toxicity

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. May cause drowsiness or dizziness.

**Symptoms** Redness. Coughing and/ or wheezing. Prolonged contact may cause redness and irritation.

### Numerical measures of toxicity - Product Information

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

<b>ATEmix (oral)</b>	1,144.20 mg/kg
<b>ATEmix (dermal)</b>	31,173.10 mg/kg
<b>ATEmix (inhalation-vapor)</b>	231.20 mg/l

#### Component Information

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

See section 16 for terms and abbreviations

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

<b>Skin corrosion/irritation</b>	Causes severe skin burns and eye damage.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage. Causes burns. Classification based on data available for ingredients.
<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	Australia	European Union	IARC
Trade Secret -	-	-	Group 3

#### Legend

**IARC (International Agency for Research on Cancer)**  
Group 3 - Not Classifiable as to Carcinogenicity in Humans



Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

## Section 12: Ecological information

### Ecotoxicity

#### Aquatic ecotoxicity

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

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> )

**Terrestrial ecotoxicity** There is no data for this product.

### Persistence and degradability

**Persistence and degradability** No information available.

### Bioaccumulative potential

#### Bioaccumulation

#### Component Information

Chemical name	Partition coefficient
Trade Secret	0.05

### Mobility

**Mobility** No information available.

### Other adverse effects

**Other adverse effects** No information available.

## Section 13: Disposal considerations

### Waste treatment methods

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

<b>products</b>	regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

See section 8 for more information

## Section 14: Transport information

**ADG** Not regulated

### IATA

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

### IMDG

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
 No information available

## Section 15: Regulatory information

### Regulatory information

#### National regulations

##### Australia

See section 8 for national exposure control parameters

#### **Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

**Poison Schedule Number** 4

#### **Australian Industrial Chemicals Introduction Scheme (AICIS)**

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Guanidine Thiocyanate - 593-84-0	Present	-
Trade Secret -	Present	-

#### **Illicit Drug Precursors/Reagents**

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

#### **Major hazard (accident/incident planning) regulation**

Verify that license requirements are met

##### Hazardous chemical

Liquids with flash points <61°C kept above their boiling points at ambient conditions

Threshold quantity (T)  
200

#### **National pollutant inventory**

Subject to reporting requirement

Chemical name	National pollutant inventory
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Trade Secret -	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total
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**International Inventories**

<b>AIIC</b>	Contact supplier for inventory compliance status.
<b>NZIoC</b>	Contact supplier for inventory compliance status.
<b>TSCA</b>	Contact supplier for inventory compliance status.
<b>DSL/NDL</b>	Contact supplier for inventory compliance status.
<b>EINECS/ELINCS</b>	Contact supplier for inventory compliance status.
<b>ENCS</b>	Contact supplier for inventory compliance status.
<b>IECSC</b>	Contact supplier for inventory compliance status.
<b>KECL</b>	Contact supplier for inventory compliance status.
<b>PICCS</b>	Contact supplier for inventory compliance status.

**Legend:**

<b>AICS</b>	- Australian Inventory of Chemical Substances
<b>NZIoC</b>	- New Zealand Inventory of Chemicals
<b>TSCA</b>	- United States Toxic Substances Control Act Section 8(b) Inventory
<b>DSL/NDL</b>	- Canadian Domestic Substances List/Non-Domestic Substances List
<b>EINECS/ELINCS</b>	- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
<b>ENCS</b>	- Japan Existing and New Chemical Substances
<b>IECSC</b>	- China Inventory of Existing Chemical Substances
<b>KECL</b>	- Korean Existing and Evaluated Chemical Substances
<b>PICCS</b>	- Philippines Inventory of Chemicals and Chemical Substances

**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

**Section 16: Other information**

<b>Prepared by</b>	Environmental, Health and Safety 978-927-5054
<b>Revision date</b>	07-Dec-2022
<b>Revision note</b>	SDS is valid 3 years from revision date. Contact info@neb.com for latest revision

\*\*\*Indicates updated data since last publication.

**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
C	Carcinogen		

**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)  
Australian Industrial Chemicals Introduction Scheme (AICIS)  
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

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge and belief at the date of publication. This information is intended only as a guide for safe handling, use, processing, storage, transportation, disposal and release and should not be taken as a warranty or quality specification. The information relates only to the specific material and may not be valid for such material used in combination with any other materials or in any process unless expressly specified in the text. New England Biolabs will not be liable for any damages resulting from handling or contact with the product.

**End of Safety Data Sheet**

**Australia SDS version information - UGHS**

UL release:

Q2 GHS Revision 7 2022

**Australia**

Partial process, including GHS Wizard, NO TW

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**

**Document Review**

**ATTENTION**

Full text of H-Statements referred to under section 3 H225 - Highly flammable liquid and vapor H302 - Harmful if swallowed H319 - Causes serious eye irritation H412 - Harmful to aquatic life with long lasting effects

**Composition**

48.9