



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
REACH Regulation (EC) No 1907/2006, as retained in UK law by (SI 2019/758 as amended)

Revision date 10-Apr-2025

Version 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Monarch® StabiLyse™ DNA/RNA Buffer

Product No T2111

Pure substance/mixture Mixture

Contains Guanidine Thiocyanate; Sodium EDTA

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

Recommended use This product is for research and development only

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

New England BioLabs
240 County Road
Ipswich, MA 01938
USA

For further information, please contact

Contact Point 978-927-5054, 800-632-5227 (toll free)

E-mail address info@neb.com

1.4. Emergency telephone number

Emergency Telephone Chemtrec +44 20 3885 0382

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP (SI 2020/1567 as amended)

Acute toxicity - Oral	Category 4 - (H302)
Skin corrosion	Category 1 - (H315)
Serious eye damage	Category 1 - (H319)
Hazardous to the aquatic environment - chronic	Category 3 - (H412)

2.2. Label elements

Contains Guanidine Thiocyanate; Sodium EDTA

**Signal word**

Danger

Hazard statements

H302 - Harmful if swallowed.

H314 - Causes severe skin burns and eye damage.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 - Do not breathe dust, fume, gas, mist, vapors and spray.

P280 - Wear protective gloves/protective clothing and eye/face protection.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER or doctor.

P321 - Specific treatment (see .? on this label).

P331 - Do NOT induce vomiting.

Unknown acute toxicity

1.78 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

Additional information

This product requires tactile warnings if supplied to the general public.

2.3. Other hazards**Other hazards**

No information available.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	Notes
Guanidine Thiocyanate 593-84-0	40 - 50%	209-812-1	-	-	-	-	-	-
Sodium EDTA 6381-92-6	0 - 10%	-	-	-	-	-	-	-
Trade Secret	0 - 10%	No information available	-	-	-	-	-	-

Full text of H- and EUH-phrases: see section 16Acute Toxicity Estimate

In the absence of LD50/LC50 data, the conversion value (converted acute toxicity point estimate) may be indicated here; please note that these values do not represent test results

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Sodium EDTA 6381-92-6	2000	No data available	No data available	No data available	No data available
Trade Secret	1800	No data available	No data available	No data available	No data available

This product contains one or more candidate substance(s) of very high concern (UK REACH)

Chemical name	CAS No.	SVHC candidates
Trade Secret	-	X

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	IF exposed or concerned: Get medical advice/attention. If symptoms persist, call a physician.
Inhalation	If symptoms persist, call a physician. Remove to fresh air.
Eye contact	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.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Ingestion	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.
Self-protection of the first aider	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.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Prolonged contact may cause redness and irritation. Vapors may cause drowsiness and dizziness.
Effects of Exposure	No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire

CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture**Specific hazards arising from the chemical**

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

5.3. Advice 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**6.1. Personal precautions, protective equipment and emergency procedures****Personal precautions**

Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information

Refer to protective measures listed in Sections 7 and 8.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections**Reference to other sections**

See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

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

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. 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.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

7.3. Specific end use(s)

Risk management methods [RMM] The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Guanidine Thiocyanate 593-84-0		0.31 mg/kg bw/day [4] [6]	1.092 mg/m ³ [4] [6] 3.28 mg/m ³ [4] [7]
Trade Secret		20 mg/kg bw/day [4] [6]	70.53 mg/m ³ [4] [6]
Sodium Chloride 7647-14-5		295.52 mg/kg bw/day [4] [6] 295.52 mg/kg bw/day [4] [7]	2068.62 mg/m ³ [4] [6] 2068.62 mg/m ³ [4] [7]

Notes

[4] Systemic health effects.
[6] Long term.
[7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Guanidine Thiocyanate 593-84-0	0.155 mg/kg bw/day [4] [6]		0.27 mg/m ³ [4] [6]
Trade Secret	10 mg/kg bw/day [4] [6]		17.39 mg/m ³ [4] [6]
Sodium Chloride 7647-14-5	126.65 mg/kg bw/day [4] [6] 126.65 mg/kg bw/day [4] [7]	126.65 mg/kg bw/day [4] [6] 126.65 mg/kg bw/day [4] [7]	443.28 mg/m ³ [4] [6] 443.28 mg/m ³ [4] [7]

Notes

[4] Systemic health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Guanidine Thiocyanate 593-84-0	42.4 µg/L	424 µg/L	4.24 µg/L	424 µg/L	
Trade Secret	0.00891 mg/L	0.0891 mg/L	0.000891 mg/L	0.00891 mg/L	
Trade Secret	0.2 mg/L	0.239 mg/L	0.02 mg/L		
Sodium Chloride 7647-14-5	5 mg/L				

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Guanidine Thiocyanate 593-84-0	165 µg/kg sediment dw	16.5 µg/kg sediment dw	20 mg/L	8.03 µg/kg soil dw	
Trade Secret	0.0642 mg/kg sediment dw	0.0064 mg/kg sediment dw	3 mg/L	0.0076 mg/kg soil dw	
Trade Secret	1.141 mg/kg sediment dw	1000 mg/kg sediment dw			
Sodium Chloride 7647-14-5			500 mg/L	4.86 mg/kg soil dw	

8.2. Exposure controls

Engineering controls

No information available.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles. Face protection shield.

Hand protection

Wear suitable gloves. Impervious gloves.

Skin and body protection

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

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.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. 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.

SECTION 9: Physical and chemical properties

9.1. 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>
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	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	
Flash point	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	5.4	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	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
Vapor pressure	No data available	None known
Relative density	No data available	None known
Bulk density	No data available	
Liquid Density	No data available	
Vapor density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No information available.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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Explosion data

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

10.3. Possibility of hazardous reactions

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

Conditions to avoid	Exposure to air or moisture over prolonged periods.
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10.5. Incompatible materials

Incompatible materials Acids. Bases. Oxidizing agent.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Toxicological information

Information on likely routes of exposure

Product Information

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

Symptoms related to the physical, chemical and toxicological characteristics

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

Acute toxicity Harmful if swallowed.

Numerical measures of toxicity

The following ATE values have been calculated for the mixture

ATEmix (oral)	1,143.20 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

Unknown acute toxicity

1.78 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium EDTA	= 2 g/kg (Rat)	-	-
Trade Secret	= 1800 mg/kg (Rat)	-	-

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

Skin corrosion/irritation May cause skin irritation.

Serious eye damage/eye irritation Causes serious eye damage. Causes burns. Classification based on data available for ingredients.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sodium EDTA	-	LC50: =320mg/L (96h, <i>Poecilia reticulata</i>)	-	-

12.2. Persistence and degradability

Persistence and degradability

No information available.

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Sodium EDTA	-4.3

12.4. Mobility in soil

Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Guanidine Thiocyanate	Not PBT/vPvB
Sodium EDTA	Not PBT/vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Authorizations and/or restrictions on use:**

This product contains one or more substances subject to authorization (UK REACH - Annex XIV).

Chemical name	Restricted substance per UK REACH Annex XVII	Substance subject to authorization per UK REACH Annex XIV
Trade Secret -	-	Use authorised See item 42

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Named dangerous substances per COMAH (SI 2015/483 as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons and Explosive Precursors

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
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
TCSI	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 Chemicals Inventory
PICCS	- Philippines Inventory of Chemicals and Chemical Substances
AICS	- Australian Inventory of Chemical Substances
NZIoC	- New Zealand Inventory of Chemicals
TCSI	- Taiwan Chemical Substance Inventory

15.2. Chemical safety assessment**Chemical Safety Report** No information available**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

+ Sensitizers

Classification procedure

Classification according to GB CLP (SI 2020/1567 as amended)	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

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)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 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)
 U.S. 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

Revision date 10-Apr-2025**Further information** SDS is valid 3 years from revision date. Contact info@neb.com for latest revision**This SDS complies with the requirements of UK REACH Regulations SI 2019/758 (as amended)****Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work****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