

C-WTA Stabilization Solution; C-WTA Synthesis Enzyme; C-WTA Amplification Enzyme; Nuclease-Free Water	No applicable GHS categories [Prevention]: No GHS prevention statements [Response]: No GHS response statements [Storage]: No GHS storage statements [Disposal]: No GHS disposal statement
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3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

C-WTA Synthesis Buffer

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Potassium chloride (KCl) CAS Number: 0007447-40-7	1.0 - 10	Not Classified	[1]
Tromethamine CAS Number: 0000077-86-1	1.0 - 10	Skin Irrit. 2;H315 Eye Irrit. 2;H319 STOT SE 3;H335	[1]
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride CAS Number: 0001185-53-1	1.0 - 10	Not Classified	[1]

C-WTA Stabilization Solution

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)- CAS Number: 0003483-12-3	1.0 - 10	Acute Tox. 4;H302 Skin Irrit. 2;H315 Eye Irrit. 2;H319 STOT SE 3;H335	[1]

C-WTA Synthesis Enzyme

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Glycerol CAS Number: 0000056-81-5	10 - 25	Not Classified	[1][2]

C-WTA Amplification Buffer

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Tromethamine CAS Number: 0000077-86-1	1.0 - 10	Skin Irrit. 2;H315 Eye Irrit. 2;H319 STOT SE 3;H335	[1]
Ammonium sulphate CAS Number: 0007783-20-2	1.0 - 10	Not Classified	[1]

C-WTA Amplification Enzyme

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Glycerol CAS Number: 0000056-81-5	50 - 75	Not Classified	[1][2]
Ammonium sulphate CAS Number: 0007783-20-2	1.0 - 10	Not Classified	[1]

Nuclease-Free Water

There are no ingredients in this component which are classified as hazardous.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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

Overview	No specific symptom data available. See section 2 for further details.
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5. Fire-fighting measures

5.1. Extinguishing media

Carbon Dioxide, dry chemical powder or appropriate foam.

5.2. Special hazards arising from the substance or mixture

Slight Flammability. Material must be heated before ignition will occur.

5.3. Advice for fire-fighters

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

ERG Guide No. ----

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Absorb spill with inert material, then place in a chemical waste container.

7. Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes.

Avoid inhalation.

Avoid Ingestion.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Keep all containers tightly closed.
Store at -20 C.

Incompatible materials: Strong oxidizing agents, strong bases

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

CAS No.	Ingredient	Exposure	
		Source	Value
0000056-81-5	Glycerol	OSHA	TWA 15 mg/m3 (total) TWA 5 mg/m3 (resp)
		ACGIH	TWA: 3 mg/m3 (respirable) 10 mg/m3 (mist)
		NIOSH	No established RELs
		Supplier	No Established Limit
0000077-86-1	Tromethamine	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
0001185-53-1	1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
0003483-12-3	2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
0007447-40-7	Potassium chloride (KCl)	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
0007783-20-2	Ammonium sulphate	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0000056-81-5	Glycerol	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0000077-86-1	Tromethamine	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

0001185-53-1	1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0003483-12-3	2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0007447-40-7	Potassium chloride (KCl)	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0007783-20-2	Ammonium sulphate	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

Exposure Controls: No special measures or monitoring required. Facility should be equipped with an eyewash facility and a safety shower.

Personal Protective Equipment: The usual precautionary measures are to be adhered to. Use protective gloves, clothing, and safety goggles.

See section 2 for further details. - [Prevention];

9. Physical and chemical properties

Appearance	Reagent vials containing liquid
Odor	Unknown
Odor threshold	Not Measured
pH	Not Measured
Melting point / freezing point	Not Measured
Initial boiling point and boiling range	Not Measured
Flash Point	Not Measured
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	Not Measured
Specific Gravity	Not Measured
Solubility in Water	Not Measured
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Keep away from oxidizing agents, excessive heat, and ignition sources.

10.5. Incompatible materials

Strong oxidizing agents, strong bases

10.6. Hazardous decomposition products

Oxides of phosphorus, oxides of sulfur, phosphine.

11. Toxicological information

Acute toxicity

See section 2 for GHS Classifications.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Glycerol - (56-81-5)	12,600.00, Rat - Category: NA	10,000.00, Rabbit - Category: NA	No data available	No data available	No data available
Tromethamine - (77-86-1)	No data available	No data available	No data available	No data available	No data available
Ammonium sulphate - (7783-20-2)	4,250.00, Rat - Category: 5	>2,000.00, Rat - Category: 5	No data available	No data available	No data available
Potassium chloride (KCl) - (7447-40-7)	No data available	No data available	No data available	No data available	No data available
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)- - (3483-12-3)	400.00, Rat - Category: 4	No data available	No data available	No data available	No data available
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride - (1185-53-1)	No data available	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

12. Ecological information

12.1. Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Glycerol - (56-81-5)	67,500.00, Oncorhynchus mykiss	10,000.00, Daphnia magna	Not Available
Tromethamine - (77-86-1)	Not Available	Not Available	Not Available
Ammonium sulphate - (7783-20-2)	Not Available	Not Available	Not Available
Potassium chloride (KCl) - (7447-40-7)	Not Available	Not Available	Not Available
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)- - (3483-12-3)	Not Available	27.00, Daphnia magna	Not Available
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride - (1185-53-1)	Not Available	Not Available	Not Available

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for ground transport

IATA

Non-Hazardous for Air Transport: Non-Hazardous for air transport.

15. Regulatory information

Regulatory Overview

The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA)

All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification

Not Regulated

Canadian DSL/NDSL:

CAS# 56-81-5 is listed on Canada's DSL List.

Canada Ingredient Disclosure List:

No Product Ingredients Listed

US EPA Tier II Hazards

Fire: No

Sudden Release of Pressure: No

Reactive: No

Immediate (Acute): Yes

Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:

(No Product Ingredients Listed)

EPCRA 302 Extremely Hazardous :

(No Product Ingredients Listed)

EPCRA 313 Toxic Chemicals:

(No Product Ingredients Listed)

Proposition 65 - Carcinogens (>0.0%):

(No Product Ingredients Listed)

Proposition 65 - Developmental Toxins (>0.0%):

(No Product Ingredients Listed)

Proposition 65 - Female Repro Toxins (>0.0%):

(No Product Ingredients Listed)

Proposition 65 - Male Repro Toxins (>0.0%):

(No Product Ingredients Listed)

N.J. RTK Substances (>1%):

Glycerol

Penn RTK Substances (>1%):

Glycerol

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

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