

Trade Name:

AlphaLISA SureFire® Ultra™ Detection Kit

Human TYK2 Total Detection Kit



Article numbers:

ALSU-TTYK2-A500 ALSU-TTYK2-A10K ALSU-TTYK2-A50K ALSU-TTYK2-A-HV ALSU-TTYK2-A-L

Components and Hazard Identification in ALSU assay kits.

Kit Components	Vol / 100 point	Vol / 500 point	Vol / 10,000 point	Vol / 50,000 point	Hazard Identification	
Activation Buffer	1 x 0.3 mL	1 x 0.8 mL	1 x 10 mL	1 x 50 mL	⟨₿⟩	GHS07; H319
Dilution Buffer	1 x 1.8 mL	1 x 3 mL	1 x 60 mL	1 x 300 mL	N/A;	N/A;
Lysis Buffer (5X)	1 x 12 mL	1 x 12 mL	4 x 60 mL	3 x 400 mL	⟨₿⟩	GHS07; H319
Reaction Buffer 1 - Ultra	1 x 0.9 mL	1 x 1.5 mL	1 x 28 mL	1 x 140 mL	N/A;	N/A;
Reaction Buffer 2 - Ultra	1 x 0.9 mL	1 x 1.5 mL	1 x 28 mL	1 x 140 mL	N/A;	N/A;
AlphaLISA® Capt <i>Sure</i> ™ Acceptor Beads (2 mg/mL)	1 x 0.045mL	1 x 0.06 mL	1 x 1.1 mL	1 x 5.5 mL	N/A;	N/A;
Alpha Streptavidin Donor Beads (2 mg/mL)	1 x 0.045mL	1 x 0.06 mL	1 x 1.1 mL	1 x 5.5 mL	N/A;	N/A;
Positive Control Lysate (lyophilized)	1 x 250uL	1 x 250uL	1 x 250uL	1 x 250uL	N/A;	N/A;
					#N/A	#N/A

Components and Hazard Identification for Individual Sale items

*** = assay target name

Composition	Hazards identification		
ALSU-AB-100ml ALSU-AB-10ml	Activation Buffer	(GHS07; H319
ALSU-ABB-100ml ALSU-ABB-10ml	Activation Buffer B	N/A;	N/A
ALSU-ABC-100ml ALSU-ABC-10ml	Activation Buffer C		GHS05; H318
ALSU-DB-100ml ALSU-DB-10ml	Dilution Buffer	N/A;	N/A
ALSU-LB-100mL ALSU-LB-10mL	Lysis Buffer (5x)	1	GHS07; H319
ALSU-LBB-100mL ALSU-LBB-10mL	Lysis Buffer B (5x) plus Supplement B (pack)	♦ ♦	GHS07; H319 plus GHS07; H319
ALSU-LBC-100mL ALSU-LBC-10mL	Lysis Buffer C (5x) plus Supplement C (Pack)	♦	GHS07; H319 plus GHS05; H318
ALSU-***-A-L	Positive Control Lysate	N/A;	N/A
ALSU-ACAB-0.06mL ALSU-ACAB-1.2mL ALSU-ACAB-6mL	AlphaLISA® CaptSure™ Acceptor Beads (2 mg/mL)	N/A;	N/A
ALSU-ASDB-0.06mL ALSU-ASDB-1.2mL ALSU-ASDB-6mL	Alpha Streptavidin Donor Beads (2 mg/mL)	N/A;	N/A;







Activation Buffer - Ultra TGR BioSciences Pty Ltd (an Abcam Company)

Chemwatch: **5555-09**Version No: **7.1**Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **02/09/2024** Print Date: **19/09/2024** S.GHS.USA.EN.E

SECTION 1 Identification

Other means of identification

Product Identifier		
Product name	Activation Buffer - Ultra	
Chemical Name	Not Applicable	
Synonyms	Activation Buffer A	
Chemical formula	Not Applicable	

Recommended use of the chemical and restrictions on use

Not Available

Relevant identified uses	Use of Substances/mixtures for Laboratory Research Use Only. Do Not Use for diagnostic, therapeutic or clinical use.
Relevant identified uses	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	TGR BioSciences Pty Ltd (an Abcam Company)	
Address	Init 3-4, 31 George Street Thebarton SA 5031 Australia	
Telephone	+61 08 7228 2141	
Fax	Not Available	
Website	www.tgrbiosciences.com	
Email	ADE.info@abcam.com	

Emergency phone number

Association / Organisation	Chemtrec Aus/North America/Revvity	
Emergency telephone numbers	+61290372994 (Mon-Fri 8am to 5pm)	
Other emergency telephone numbers	+1703-527-3887/+31505445971	

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification Serious Eye Damage/Eye Irritation Category 2A

Label elements

Hazard pictogram(s)



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Signal word Warning

Hazard statement(s)

H319 Causes serious eye irritation.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P280	Wear protective gloves, protective clothing, eye protection and face protection.
P264	Wash all exposed external body areas thoroughly after handling.

Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
151-21-3	<5	sodium lauryl sulfate
55965-84-9	<0.01	isothiazolinones, mixed
Not Available	balance	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider:

▶ foam.

Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting Alert Fire B

▶ Alert Fire Brigade and tell them location and nature of hazard.

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	 Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area.
	 The material is not readily combustible under normal conditions. However, it will break down under fire conditions and the organic component may burn. Not considered to be a significant fire risk. Heat may cause expansion or decomposition with violent rupture of containers.
Fire/Explosion Hazard	Decomposes on heating and produces toxic fumes of: carbon dioxide (CO2) nitrogen oxides (NOx) sulfur oxides (SOx) other pyrolysis products typical of burning organic material.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite.
Major Spills	Moderate hazard. ► Clear area of personnel and move upwind. ► Alert Fire Brigade and tell them location and nature of hazard. ► Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling	
Safe handling	 DO NOT allow clothing wet with material to stay in contact with skin Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps.
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	Plastic tube or Plastic Bottle Polyethylene or polypropylene container. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	None known

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits Ingradiant

ingredient	ICCL-I	IEEL-2		IEEL-3
sodium lauryl sulfate	3.9 mg/m3	43 mg/m3		260 mg/m3
Ingredient	Original IDLH		Revised IDLH	
sodium lauryl sulfate	Not Available		Not Available	
isothiazolinones, mixed	Not Available		Not Available	

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
sodium lauryl sulfate	E	≤ 0.01 mg/m³
isothiazolinones, mixed	E	≤ 0.1 ppm
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.	

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Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Individual protection measures, such as personal protective equipment











Eye and face protection

Hands/feet protection

- Safety glasses with side shields.
- ► Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection

See Hand protection below

- ▶ Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

NOTE:

- ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care.

Body protection

See Other protection below

Other protection

- Overalls.
- P.V.C apron.
- Barrier cream.
- ▶ Skin cleansing cream

Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Liquid.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Characteristic	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

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Reactivity

Chemical stability

Product is considered stable.
Product is considered stable.
Hazardous polymerisation will not occur.

See section 7

Conditions to avoid
Incompatible materials
See section 7

Hazardous decomposition products

See section 5

products			
SECTION 11 Toxicological in	nformation		
Information on toxicological ef	ffects		
Inhaled	Not normally a hazard due to non-volatile nature of product The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.		
Ingestion	Considered an unlikely route of entry in commercial/industrial environments The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.		
Skin Contact	There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.		
Eye	This material can cause eye irritation and damage in some persons		
Chronic	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population.		
	TOXICITY	IRRITATION	
Activation Buffer - Ultra	Not Available	Not Available	
	TOXICITY	IRRITATION	
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit):100 mg/24 hr-moderate	
	Oral (Rat) LD50: 1288 mg/kg ^[2]	Eye: adverse effect observed (irreversible damage) ^[1]	
sodium lauryl sulfate	Eye: adverse effect observed (irritating) ^[1]		
		Skin (human): 25 mg/24 hr - mild	
		Skin: adverse effect observed (corrosive) ^[1]	
		Skin: adverse effect observed (irritating) $^{[1]}$	
	TOXICITY	IRRITATION	
	dermal (rat) LD50: >1008 mg/kg ^[1]	Eye: adverse effect observed (irreversible damage) ^[1]	
isothiazolinones, mixed	Inhalation (Rat) LC50: 0.171 mg/l4h ^[1]	Skin: adverse effect observed (corrosive) ^[1]	
	Oral (Rat) LD50: 53 mg/kg ^[2]	Skin: adverse effect observed (irritating) ^[1]	
Legend:	Nalue obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances		
SODIUM LAURYL SULFATE	Eye (None) None: None None rabbit None 250 ugSkin (rabbit):25 mg/24 hr-moderate Skin (None) None: None rabbit None 50 mg/24Eye (rabbit) 10: mg- Based on laboratory and animal testing, exposure to the material may result in irreversible effects and mutations in humans. Alkyl sulfates are irritating to the skin, harmful if swallowed and at risk of causing serious damage to the eyes. They are metabolised by the liver and excreted via urine. They produce dose-dependent toxicity depending on their structure. They do not cause cancer, reproductive or genetic defects. For alkyl sulfates; alkane sulfonates and alpha-olefin sulfonates Most chemicals of this category are not defined substances, but mixtures of homologues with different alkyl side chains. Common physical and/or biological pathways result in structurally similar breakdown products, and are, together with the surfactant properties, responsible for similar environmental behavior and essentially identical hazard profiles with regard to human health. Acute toxicity: These substances are well absorbed after ingestion; penetration through the skin is however, poor. After absorption, these chemicals are distributed mainly to the liver. In animals, signs of poisoning by mouth include lethargy, hair standing up, decreased motor activity and breathing rate, and diarrhea. Poisoning from skin contact caused irritation, tremor, tonic-clonic convulsions, breathing failure, and weight loss.		
ISOTHIAZOLINONES, MIXED	The following information refers to contact allergens as a group and	may not be openio to this product.	

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.

In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this aim, it is required that risk assessment of biocidal products is carried out before they can be placed on the market. A central element in

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the risk assessment of the biocidal products are the utilization instructions that defines the dosage, application method and amount of applications and thus the exposure of humans and the environment to the biocidal substance.

Humans may be exposed to biocidal products in different ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by non-professional users. No significant acute toxicological data identified in literature search.

Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%. The use of formaldehyde-releasing preservatives ensures that the level of free formaldehyde in the products is always low but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines.

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

SODIUM LAURYL SULFATE & ISOTHIAZOLINONES, MIXED

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.

Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Legend: X − Data either not available or does not fill the criteria for classification

✓ − Data available to make classification

SECTION 12 Ecological information

Toxicity

Activation Buffer - Ultra	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	4.8mg/l	2
	EC50	48h	Crustacea	0.939mg/l	1
sodium lauryl sulfate	LC50	96h	Fish	0.59mg/L	4
	EC0(ECx)	72h	Algae or other aquatic plants	30mg/l	1
	EC50	96h	Algae or other aquatic plants	0.4- 3.7mg/L	4
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.006mg/L	2
	EC50	48h	Crustacea	0.007mg/l	2
isothiazolinones, mixed	LC50	96h	Fish	0.129mg/l	2
	EC50	96h	Algae or other aquatic plants	0.036mg/L	2
	NOEC(ECx)	48h	Algae or other aquatic plants	<0.001mg/L	2

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

DO NOT discharge into sewer or waterways

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
sodium lauryl sulfate	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
sodium lauryl sulfate	LOW (BCF = 7.15)

Mobility in soil

Ingredient	Mobility
sodium lauryl sulfate	LOW (Log KOC = 10220)

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SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal Consult State Land Waste Management Authority for disposal.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
sodium lauryl sulfate	Not Available
isothiazolinones, mixed	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
sodium lauryl sulfate	Not Available
isothiazolinones, mixed	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

sodium lauryl sulfate is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

isothiazolinones, mixed is found on the following regulatory lists

Not Applicable

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No

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Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non- Industrial Use	No (isothiazolinones, mixed)
Canada - DSL	Yes
Canada - NDSL	No (isothiazolinones, mixed)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (isothiazolinones, mixed)
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	No (isothiazolinones, mixed)
Taiwan - TCSI	Yes
Mexico - INSQ	No (isothiazolinones, mixed)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	02/09/2024
Initial Date	12/07/2022

SDS Version Summary

Version	Date of Update	Sections Updated
6.1	15/08/2024	Physical and chemical properties - Appearance, Identification of the substance / mixture and of the company / undertaking - Synonyms
7.1	02/09/2024	Physical and chemical properties - Appearance, Identification of the substance / mixture and of the company / undertaking - Synonyms

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be

Definitions and abbreviations

- ▶ PC TWA: Permissible Concentration-Time Weighted Average
- ▶ PC STEL: Permissible Concentration-Short Term Exposure Limit
- ▶ IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ▶ TEEL: Temporary Emergency Exposure Limit。
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- ▶ LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value

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Activation Buffer - Ultra

- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ► DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances

- ELINCS: European List of Notified Chemical Substances
 NLP: No-Longer Polymers
 ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
 TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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TEL (+61 3) 9572 4700.



Dilution Buffer - Ultra TGR BioSciences Pty Ltd (an Abcam Company)

Cheriwatch: 3535-16 Version No: 4.1 Safety Data Sheet according to OSHA HazCom Standard (2012) requirements Issue Date: **25/10/2022** Print Date: **19/09/2024** S.GHS.USA.EN.E

SECTION 1 Identification

Product Identifier		
Product name	Dilution Buffer - Ultra	
Chemical Name	Not Applicable	
Synonyms	Dilution Buffer A	
Chemical formula	Not Applicable	
Other means of identification	Not Available	

Recommended use of the chemical and restrictions on use

Delevent identified were	Use of Substances/mixtures for Laboratory Research Use Only. Do Not Use for diagnostic, therapeutic or clinical use.
Relevant identified uses	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

- · · · · · · · · · · · · · · · · · · ·	
Registered company name	TGR BioSciences Pty Ltd (an Abcam Company)
Address	Unit 3-4, 31 George Street Thebarton SA 5031 Australia
Telephone	+61 08 7228 2141
Fax	Not Available
Website	www.tgrbiosciences.com
Email	ADE.info@abcam.com

Emergency phone number

Emergency priority manuscr		
	Association / Organisation	Chemtrec Aus/North America/Revvity
	Emergency telephone numbers	+61290372994 (Mon-Fri 8am to 5pm)
	Other emergency telephone numbers	+1703-527-3887/+31505445971

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Not considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Not Applicable	
Label elements		
Hazard pictogram(s)	Not Applicable	
Signal word	Not Applicable	

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Not Applicable

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name	
55965-84-9	<0.01	isothiazolinones, mixed	
Not Available	balance	Ingredients determined not to be hazardous	

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: Wash out immediately with water. If irritation continues, seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider:

▶ foam.

Special hazards arising from the substrate or mixture

Fire Incompatibility ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment	Special protective equipment and precautions for fire-fighters		
Fire Fighting	 Use water delivered as a fine spray to control fire and cool adjacent area. Do not approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. 		
Fire/Explosion Hazard	 The material is not readily combustible under normal conditions. However, it will break down under fire conditions and the organic component may burn. Not considered to be a significant fire risk. Heat may cause expansion or decomposition with violent rupture of containers. Decomposition may produce toxic fumes of: carbon dioxide (CO2) other pyrolysis products typical of burning organic material. 		

SECTION 6 Accidental release measures

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Dilution Buffer - Ultra

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Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite.
Major Spills	Minor hazard. ► Clear area of personnel. ► Alert Fire Brigade and tell them location and nature of hazard. ► Control personal contact with the substance, by using protective equipment as required.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	 Limit all unnecessary personal contact. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with incompatible materials. 	
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. 	

Conditions for safe storage, including any incompatibilities

Suitable container	Plastic tube or plastic bottle. Polyethylene or polypropylene container. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	▶ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2		TEEL-3
Dilution Buffer - Ultra	Not Available	Not Available		Not Available
Ingredient	Original IDLH		Revised IDLH	
isothiazolinones, mixed	Not Available		Not Available	

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit	
isothiazolinones, mixed	E	≤ 0.1 ppm	
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.		

Exposure controls

Appropriate engineering Appropriate engineering controls Contro

Individual protection measures, such as personal protective equipment









Eye and face protection

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.

Skin protection

See Hand protection below

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Hands/feet protection	▶ Wear general protective gloves, eg. light weight rubber gloves. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: Overalls. Barrier cream. Eyewash unit.

Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

illorillation on basic physical			
Appearance	Clear liquid.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.		
The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.		
The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.		
Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).		
Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.		

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Dilution Buffer - Ultra

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Dilution Buffer - Ultra	TOXICITY	IRRITATION
Dilution Burier - Oitra	Not Available	Not Available
	TOXICITY	IRRITATION
	dermal (rat) LD50: >1008 mg/kg ^[1]	Eye: adverse effect observed (irreversible damage) $^{[1]}$
isothiazolinones, mixed	Inhalation (Rat) LC50: 0.171 mg/l4h ^[1]	Skin: adverse effect observed (corrosive) ^[1]
	Oral (Rat) LD50: 53 mg/kg ^[2]	Skin: adverse effect observed (irritating) ^[1]
Legend:	Value obtained from Europe ECHA Registered Substact specified data extracted from RTECS - Register of Toxic	ances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise Effect of chemical Substances

The following information refers to contact allergens as a group and may not be specific to this product.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.

In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this aim, it is required that risk assessment of biocidal products is carried out before they can be placed on the market. A central element in the risk assessment of the biocidal products are the utilization instructions that defines the dosage, application method and amount of applications and thus the exposure of humans and the environment to the biocidal substance.

Humans may be exposed to biocidal products in different ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by nonprofessional users. No significant acute toxicological data identified in literature search.

ISOTHIAZOLINONES, MIXED

Version No. 4.1

Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%. The use of formaldehydereleasing preservatives ensures that the level of free formaldehyde in the products is always low but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines.

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.

Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	×	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Leaend:

— Data either not available or does not fill the criteria for classification Data available to make classification

SECTION 12 Ecological information

Toxicity

Dilution Buffer - Ultra	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.006mg/L	2
	EC50	48h	Crustacea	0.007mg/l	2
isothiazolinones, mixed	LC50	96h	Fish	0.129mg/l	2
	EC50	96h	Algae or other aquatic plants	0.036mg/L	2
	NOEC(ECx)	48h	Algae or other aquatic plants	<0.001mg/L	2

Leaend:

Extracted from 1, IUCLID Toxicity Data 2, Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4, US EPA. Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

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Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal Consu

Consult State Land Waste Management Authority for disposal.

SECTION 14 Transport information

Labels Required

Marine Pollutant NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
isothiazolinones, mixed	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
isothiazolinones, mixed	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

isothiazolinones, mixed is found on the following regulatory lists

Not Applicable

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No

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Simple Asphyxiant	
Hazards Not Otherwise Classified	

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non- Industrial Use	No (isothiazolinones, mixed)
Canada - DSL	Yes
Canada - NDSL	No (isothiazolinones, mixed)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (isothiazolinones, mixed)
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	No (isothiazolinones, mixed)
Taiwan - TCSI	Yes
Mexico - INSQ	No (isothiazolinones, mixed)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	25/10/2022
Initial Date	13/07/2022

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	16/08/2022	Name
4.1	25/10/2022	Disposal considerations - Disposal, Handling and storage - Storage (storage incompatibility), Identification of the substance / mixture and of the company / undertaking - Synonyms

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- ▶ PC TWA: Permissible Concentration-Time Weighted Average
- ▶ PC STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit_o
- ► IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- ▶ OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors

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Dilution Buffer - Ultra

- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
 NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- NIP: No-Longer Polymers

 ENCS: Existing and New Chemical Substances Inventory

 KECI: Korea Existing Chemicals Inventory

 NZIoC: New Zealand Inventory of Chemicals

- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ► TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
 INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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Lysis Buffer (5X) - Ultra TGR BioSciences Pty Ltd (an Abcam Company)

Chemwatch: 5555-13 Version No: 9.1 Safety Data Sheet according to OSHA HazCom Standard (2012) requirements Issue Date: **05/09/2024** Print Date: **19/09/2024** S.GHS.USA.EN.E

SECTION 1 Identification

Other means of identification

Product Identifier	
Product name	Lysis Buffer (5X) - Ultra
Chemical Name	Not Applicable
Synonyms	Lysis Buffer (5X) A
Chemical formula	Not Applicable

Recommended use of the chemical and restrictions on use

Not Available

Relevant identified uses	Use of Substances/mixtures for Laboratory Research Use Only. Do Not Use for diagnostic, therapeutic or clinical use.
Relevant identified uses	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	TGR BioSciences Pty Ltd (an Abcam Company)	
Address	Unit 3-4, 31 George Street Thebarton SA 5031 Australia	
Telephone	+61 08 7228 2141	
Fax	Not Available	
Website	www.tgrbiosciences.com	
Email ADE.info@abcam.com		

Emergency phone number

Emorgoney prione number	
Association / Organisation	Chemtrec Aus/North America/Revvity
Emergency telephone numbers	+61290372994 (Mon-Fri 8am to 5pm)
Other emergency telephone numbers	+1703-527-3887/+31505445971

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification Serious Eye Damage/Eye Irritation Category 2A

Label elements

Hazard pictogram(s)



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Signal word Warning

Hazard statement(s)

H319 Causes serious eye irritation.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P280	Wear protective gloves, protective clothing, eye protection and face protection.	
P264	Wash all exposed external body areas thoroughly after handling.	

Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

P501

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
9002-93-1	<2.5	<u>p-tert-octylphenol ethoxylate</u>
55965-84-9	<0.01	isothiazolinones, mixed
7681-49-4	>0.1	sodium fluoride
Not Available	balance	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Immediately give a glass of water.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	 If this product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.

First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

Ingestion

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5 Fire-fighting measures

Extinguishing media

- ▶ There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire-fighters

Fire Fighting Alert Fire Brigade a

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves in the event of a fire.
 Prevent, by any means available, spillage from entering drains or water courses.

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Use fire fighting procedures suitable for surrounding area. ▶ The material is not readily combustible under normal conditions. ▶ However, it will break down under fire conditions and the organic component may burn. ▶ Not considered to be a significant fire risk. ▶ Heat may cause expansion or decomposition with violent rupture of containers. Decomposition may produce toxic fumes of: carbon dioxide (CO2) other pyrolysis products typical of burning organic material. May emit poisonous fumes.

Fire/Explosion Hazard

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

May emit corrosive fumes.

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite.
Major Spills	Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling		
Safe handling	 DO NOT allow clothing wet with material to stay in contact with skin Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with moisture. 	
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. 	

Conditions for safe storage, including any incompatibilities

Suitable container	Plastic Bottles Polyethylene or polypropylene container. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	► Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	sodium fluoride	Fluorides (as F)	2.5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-2	sodium fluoride	Fluoride as dust	2.5 mg/m3	Not Available	Not Available	(Z37.28-1969)
US NIOSH Recommended Exposure Limits (RELs)	sodium fluoride	Sodium fluoride (as F)	2.5 mg/m3	Not Available	Not Available	[*Note: The REL also applies to other inorganic, solid fluorides (as F).]

Emergency Limits

Ingredient	TEEL-1	TEEL-2		TEEL-3
sodium fluoride	17 mg/m3	90 mg/m3		1,100 mg/m3
Ingredient	Original IDLH		Revised IDLH	
p-tert-octylphenol ethoxylate	Not Available		Not Available	
isothiazolinones, mixed	Not Available		Not Available	
sodium fluoride	250 mg/m3		Not Available	

Occupational Exposure Banding

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Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
p-tert-octylphenol ethoxylate	E	≤ 0.1 ppm
isothiazolinones, mixed	E	≤ 0.1 ppm
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.	

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Individual protection measures, such as personal protective equipment









Eye and face protection

- ▶ Safety glasses with side shields.
- ► Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection

See Hand protection below

- Wear chemical protective gloves, e.g. PVC.
- Hands/feet protection

▶ Wear safety footwear or safety gumboots, e.g. Rubber
The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care.

Body protection

See Other protection below

Other protection

- Overalls.P.V.C apron.
- Barrier cream.
- Skin cleansing cream.

Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Liquid.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available

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Enclosed Space Ignition
Time Equivalent (s/m3)

Not Available

Enclosed Space Ignition
Deflagration Density (g/m3)

Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Not normally a hazard due to non-volatile nature of product The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility. Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

Lysis Buffer (5X) - Ultra	TOXIOTT	indirection of the second of t	
Lysis Buller (3x) - Oilla	Not Available	Not Available	
	TOXICITY	IRRITATION	
p-tert-octylphenol ethoxylate	Oral (Rat) LD50: 1800 mg/kg ^[2]	Eye (rabbit): 1 mg - moderate	
		Skin (human): 2 mg/3d -l - mild	
	TOXICITY	IRRITATION	
	dermal (rat) LD50: >1008 mg/kg ^[1]	Eye: adverse effect observed (irreversible damage) ^[1]	
isothiazolinones, mixed	Inhalation (Rat) LC50: 0.171 mg/l4h ^[1]	Skin: adverse effect observed (corrosive) ^[1]	
	Oral (Rat) LD50: 53 mg/kg ^[2]	Skin: adverse effect observed (irritating) $^{[1]}$	
	TOXICITY	IRRITATION	
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 20 mg/24h-moderate	
sodium fluoride	Oral (Rat) LD50: >25<2000 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]	
		Skin: no adverse effect observed (not irritating) ^[1]	

Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

IRRITATION

co

ETHOXYLATE

Octoxynols:

TOXICITY

Octoxynols of various chain lengths as well as octoxynol salts and organic acids function in cosmetics either as surfactants-emulsifying agents, surfactants-cleansing agents, surfactants-olubilizing agents, or surfactants-hydrotropes in a wide variety of cosmetic products at concentrations ranging from 0.0008% to 25%, with most less than 5.0%. The octoxynols are chemically similar to nonoxynols.. Long-chain nonoxynols (9 and above) were considered safe as used, whereas short-chain nonoxynols (8 and below) were considered safe as used in rinse-off products and safe at concentrations less than 5% in leave-on formulations. Acute exposure of hamsters to Octoxynol-9 by bronchopulmonary lavage produced pneumonia, pulmonary edema, and intra-alveolar hemorrhage.

Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. No death due to poisoning with alcohol ethoxylates has ever been reported.

Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed.

ISOTHIAZOLINONES, MIXED

P-TERT-OCTYLPHENOL

The following information refers to contact allergens as a group and may not be specific to this product.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.

In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this aim, it is required that risk assessment of biocidal products is carried out before they can be placed on the market. A central element in

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the risk assessment of the biocidal products are the utilization instructions that defines the dosage, application method and amount of applications and thus the exposure of humans and the environment to the biocidal substance. Humans may be exposed to biocidal products in different ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by nonprofessional users. No significant acute toxicological data identified in literature search. Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%. The use of formaldehydereleasing preservatives ensures that the level of free formaldehyde in the products is always low but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines. The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce SODIUM FLUORIDE conjunctivitis The substance is classified by IARC as Group 3: Lysis Buffer (5X) - Ultra & NOT classifiable as to its carcinogenicity to humans. SODIUM FLUORIDE Evidence of carcinogenicity may be inadequate or limited in animal testing. Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating ISOTHIAZOLINONES, MIXED compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset & SODIUM FLUORIDE of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. **Acute Toxicity** Carcinogenicity × Skin Irritation/Corrosion Reproductivity

Legend:

X − Data either not available or does not fill the criteria for classification
Pote available to make classification

Data available to make classification

×

×

STOT - Single Exposure

Aspiration Hazard

STOT - Repeated Exposure

SECTION 12 Ecological information

Serious Eve

sensitisation Mutagenicity ×

Damage/Irritation Respiratory or Skin

Toxicity

Version No: 9.1

	Endpoint	Test Duration (hr)	Species	Value	Source
Lysis Buffer (5X) - Ultra	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
-tert-octylphenol ethoxylate	LC50	96h	Fish	>2.8<3.2mg/L	4
	EC50(ECx)	96h	Fish	3mg/L	5
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.006mg/L	2
isothiazolinones, mixed	EC50	48h	Crustacea	0.007mg/l	2
	LC50	96h	Fish	0.129mg/l	2
	EC50	96h	Algae or other aquatic plants	0.036mg/L	2
	NOEC(ECx)	48h	Algae or other aquatic plants	<0.001mg/L	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	672h	Fish	<0.66	7
	EC50	72h	Algae or other aquatic plants	>121.8mg/L	4
sodium fluoride	EC50	48h	Crustacea	36.2mg/L	5
	LC50	96h	Fish	38-68mg/l	4
	EC50	96h	Algae or other aquatic plants	43mg/l	2
	NOEC(ECx)	2160h	Fish	3.1mg/l	4

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
p-tert-octylphenol ethoxylate	HIGH	HIGH
sodium fluoride	LOW	LOW

Bioaccumulative potential

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Ingredient	Bioaccumulation
p-tert-octylphenol ethoxylate	HIGH (LogKOW = 4.863)
sodium fluoride	LOW (BCF = 6.4)
Mobility in soil	
Ingredient	Mobility
p-tert-octylphenol ethoxylate	LOW (Log KOC = 699.2)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal Consult State Land Waste Management Authority for disposal.

LOW (Log KOC = 14.3)

SECTION 14 Transport information

Labels Required

sodium fluoride

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Marine Pollutant	NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
p-tert-octylphenol ethoxylate	Not Available
isothiazolinones, mixed	Not Available
sodium fluoride	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
p-tert-octylphenol ethoxylate	Not Available
isothiazolinones, mixed	Not Available
sodium fluoride	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

p-tert-octylphenol ethoxylate is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

isothiazolinones, mixed is found on the following regulatory lists

Not Applicable

sodium fluoride is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

US - Massachusetts - Right To Know Listed Chemicals

US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)

US CWA (Clean Water Act) - List of Hazardous Substances US DOE Temporary Emergency Exposure Limits (TEELs)

US EPA Integrated Risk Information System (IRIS)

US NIOSH Recommended Exposure Limits (RELs)

US OSHA Permissible Exposure Limits (PELs) Table Z-1

US OSHA Permissible Exposure Limits (PELs) Table Z-2

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids) No

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Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
sodium fluoride	1000	454

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status	
Australia - AIIC / Australia Non- Industrial Use	No (isothiazolinones, mixed)	
Canada - DSL	Yes	
Canada - NDSL	No (p-tert-octylphenol ethoxylate; isothiazolinones, mixed; sodium fluoride)	
China - IECSC	Yes	
Europe - EINEC / ELINCS / NLP	No (p-tert-octylphenol ethoxylate; isothiazolinones, mixed)	
Japan - ENCS	Yes	
Korea - KECI	Yes	
New Zealand - NZIoC Yes		
Philippines - PICCS	- PICCS Yes	
USA - TSCA	CA No (isothiazolinones, mixed)	
Taiwan - TCSI	Yes	
Mexico - INSQ	No (p-tert-octylphenol ethoxylate; isothiazolinones, mixed)	
Vietnam - NCI	Yes	
Russia - FBEPH	Yes	
Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.		

SECTION 16 Other information

Revision Date	05/09/2024
Initial Date	12/07/2022

Lysis Buffer (5X) - Ultra

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Version	Date of Update	Sections Updated
8.1	21/08/2024	Toxicological information - Acute Health (inhaled)
9.1	05/09/2024	Identification of the substance / mixture and of the company / undertaking - Synonyms

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- ▶ PC TWA: Permissible Concentration-Time Weighted Average
- ▶ PC STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ▶ TEEL: Temporary Emergency Exposure Limit₀
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
 TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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TEL (+61 3) 9572 4700.



Reaction Buffer 1 - Ultra TGR BioSciences Pty Ltd (an Abcam Company)

Chemwatch: **5555-14**Version No: **4.1**Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **25/10/2022** Print Date: **19/09/2024** S.GHS.USA.EN.E

SECTION 1 Identification

Product Identifier		
Product name Reaction Buffer 1 - Ultra		
Chemical Name Not Applicable		
Synonyms Reaction Buffer 1 - MPSU; Reaction Buffer 2 – Ultra; Reaction Buffer 2 & Reaction Buffer 3 - MPSU		
Chemical formula	Not Applicable	
Other means of identification	Reaction Buffer 1 - MPSU, Reaction Buffer 2 - Ultra, Reaction Buffer 2 -MPSU, Reaction Buffer 3 - MPSU	

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use of Substances/mixtures for Laboratory Research Use Only. Do Not Use for diagnostic, therapeutic or clinical use.	
	Use according to manufacturer's directions.	

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	TGR BioSciences Pty Ltd (an Abcam Company)		
Address	Unit 3-4, 31 George Street Thebarton SA 5031 Australia		
Telephone	+61 08 7228 2141		
Fax	Fax Not Available		
Website	Website www.tgrbiosciences.com		
Email ADE.info@abcam.com			

Emergency phone number

Association / Organisation	Chemtrec Aus/North America/Revvity +61290372994 (Mon-Fri 8am to 5pm)	
Emergency telephone numbers		
Other emergency telephone numbers	+1703-527-3887/+31505445971	

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Not considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Not Applicable		
Label elements			
Hazard pictogram(s)	Not Applicable		
Signal word	Not Applicable		

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Reaction Buffer 1 - Ultra

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Not Applicable

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
55965-84-9	<0.01	isothiazolinones, mixed
Not Available	balance	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact If this product comes in contact with eyes: Wash out immediately with water. If irritation continues, seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.	
Skin Contact	If skin or hair contact occurs: ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider:

▶ foam.

Special hazards arising from the substrate or mixture

Fire Incompatibility ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment a	Special protective equipment and precautions for fire-fighters		
Fire Fighting	 Use water delivered as a fine spray to control fire and cool adjacent area. Do not approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. 		
Fire/Explosion Hazard	 The material is not readily combustible under normal conditions. However, it will break down under fire conditions and the organic component may burn. Not considered to be a significant fire risk. Heat may cause expansion or decomposition with violent rupture of containers. Decomposition may produce toxic fumes of: carbon dioxide (CO2) other pyrolysis products typical of burning organic material. 		

SECTION 6 Accidental release measures

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Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. 	
Major Spills	Minor hazard. ▶ Clear area of personnel. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Control personal contact with the substance, by using protective equipment as required.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling	
Safe handling	 Limit all unnecessary personal contact. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with incompatible materials.
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	Plastic tube or plastic bottle. Polyethylene or polypropylene container. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2		TEEL-3
Reaction Buffer 1 - Ultra	Not Available	Not Available		Not Available
Ingredient	Original IDLH		Revised IDLH	
isothiazolinones, mixed	Not Available		Not Available	

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
isothiazolinones, mixed	E ≤ 0.1 ppm	
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.	

Exposure controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. Appropriate engineering The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. controls Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Individual protection measures, such as personal protective equipment Safety glasses with side shields Chemical goggles. Eye and face protection Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Skin protection See Hand protection below

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Hands/feet protection	▶ Wear general protective gloves, eg. light weight rubber gloves. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: Overalls. Barrier cream. Eyewash unit.

Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

illorillation on basic physical			
Appearance	Clear liquid.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7	
Chemical stability	oduct is considered stable and hazardous polymerisation will not occur.	
Possibility of hazardous reactions	See section 7	
Conditions to avoid	See section 7	
Incompatible materials	See section 7	
Hazardous decomposition products	See section 5	

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

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Reaction Buffer 1 - Ultra	TOXICITY	IRRITATION	
	Not Available	Not Available	
	TOXICITY	IRRITATION	
isothiazolinones, mixed	dermal (rat) LD50: >1008 mg/kg ^[1]	Eye: adverse effect observed (irreversible damage) ^[1]	
	Inhalation (Rat) LC50: 0.171 mg/l4h ^[1]	Skin: adverse effect observed (corrosive) ^[1]	
	Oral (Rat) LD50: 53 mg/kg ^[2]	Skin: adverse effect observed (irritating) ^[1]	
Legend:	 Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless other specified data extracted from RTECS - Register of Toxic Effect of chemical Substances 		

The following information refers to contact allergens as a group and may not be specific to this product.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.

In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this aim, it is required that risk assessment of biocidal products is carried out before they can be placed on the market. A central element in the risk assessment of the biocidal products are the utilization instructions that defines the dosage, application method and amount of applications and thus the exposure of humans and the environment to the biocidal substance.

Humans may be exposed to biocidal products in different ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by non-professional users. No significant acute toxicological data identified in literature search.

ISOTHIAZOLINONES, MIXED

Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%. The use of formaldehyde-releasing preservatives ensures that the level of free formaldehyde in the products is always low but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines.

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.

Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	×	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Legend:

💢 – Data either not available or does not fill the criteria for classification

Data available to make classification

SECTION 12 Ecological information

Toxicity

Reaction Buffer 1 - Ultra	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
isothiazolinones, mixed	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.006mg/L	2
	EC50	48h	Crustacea	0.007mg/l	2
	LC50	96h	Fish	0.129mg/l	2
	EC50	96h	Algae or other aquatic plants	0.036mg/L	2
	NOEC(ECx)	48h	Algae or other aquatic plants	<0.001mg/L	2

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation	
	No Data available for all ingredients	

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Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal Consult State Land Waste Management Authority for disposal.

SECTION 14 Transport information

Labels Required

Marine Pollutant NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
isothiazolinones, mixed	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
isothiazolinones, mixed	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

isothiazolinones, mixed is found on the following regulatory lists

Not Applicable

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No

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Reaction Buffer 1 - Ultra

Simple Asphyxiant No Hazards Not Otherwise Classified No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Version No: 4.1

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non- Industrial Use	No (isothiazolinones, mixed)
Canada - DSL	Yes
Canada - NDSL	No (isothiazolinones, mixed)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (isothiazolinones, mixed)
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	No (isothiazolinones, mixed)
Taiwan - TCSI	Yes
Mexico - INSQ	No (isothiazolinones, mixed)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	25/10/2022
Initial Date	12/07/2022

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	19/07/2022	Name
4.1	25/10/2022	Disposal considerations - Disposal, Handling and storage - Storage (storage incompatibility), Identification of the substance / mixture and of the company / undertaking - Synonyms

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- ▶ PC TWA: Permissible Concentration-Time Weighted Average
- ▶ PC STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit_o
- ► IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- ▶ OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ► TLV: Threshold Limit Value
- LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors

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Reaction Buffer 1 - Ultra

- BEI: Biological Exposure IndexDNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
 NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- NIP: No-Longer Polymers

 ENCS: Existing and New Chemical Substances Inventory

 KECI: Korea Existing Chemicals Inventory

 NZIoC: New Zealand Inventory of Chemicals

- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances

- TSCA: Toxic Substances Control Act
 TCSI: Taiwan Chemical Substance Inventory
 INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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TEL (+61 3) 9572 4700.



AlphaLISA CaptSure[™] Acceptor Beads (2mg/mL) TGR BioSciences Pty Ltd (an Abcam Company)

Chemwatch: 5555-20 Version No: 3.1 Safety Data Sheet according to OSHA HazCom Standard (2012) requirements Issue Date: **25/10/2022** Print Date: **19/09/2024** S.GHS.USA.EN.E

SECTION 1 Identification

Product Identifier	
Product name	AlphaLISA CaptSure™ Acceptor Beads (2mg/mL)
Chemical Name	Not Applicable
Synonyms	Alpha 615 CaptSure™ Acceptor Beads (2mg/mL) _ Multiplex; Alpha 545 CaptSure2™ Acceptor Beads (2mg/mL) _ Multiplex; Alpha 615 anti-p-AKT(1/2/3) (Ser473) (mlgG1) Acceptor Beads; Alpha 615 anti-p-ERK (mlgG1) Acceptor Beads
Chemical formula	Not Applicable
Other means of identification	Alpha 545 CaptSure2 Acceptor Beads (2mg/mL)_MPSU, Alpha 615 CaptSure Acceptor Beads (2mg/mL)_MPSU

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use of Substances/mixtures for Laboratory Research Use Only. Do Not Use for diagnostic, therapeutic or clinical use. Use according to manufacturer's directions.
	Ose according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	TGR BioSciences Pty Ltd (an Abcam Company)
Address	Unit 3-4, 31 George Street Thebarton SA 5031 Australia
Telephone	+61 08 7228 2141
Fax	Not Available
Website	www.tgrbiosciences.com
Email	ADE.info@abcam.com

Emergency phone number

• • •	
Association / Organisation	Chemtrec Aus/North America/Revvity
Emergency telephone numbers	+61290372994 (Mon-Fri 8am to 5pm)
Other emergency telephone numbers	+1703-527-3887/+31505445971

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Not considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Not Applicable
Label elements	

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

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AlphaLISA CaptSure™ Acceptor Beads (2mg/mL)

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Hazard statement(s)

Not Applicable

Version No: 3.1

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
55965-84-9	<0.01	isothiazolinones, mixed
Not Available	balance	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: Wash out immediately with water. If irritation continues, seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- ▶ There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard	 Non combustible. Not considered a significant fire risk, however containers may burn.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

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AlphaLISA CaptSure™ Acceptor Beads (2mg/mL)

Methods and material for containment and cleaning up

Minor Spills

- ▶ Clean up all spills immediately
- Avoid contact with skin and eves
- Wear impervious gloves and safety glasses.
- Use dry clean up procedures and avoid generating dust.

Major Spills

- ► Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Control personal contact with the substance, by using protective equipment and dust respirator.
 Prevent spillage from entering drains, sewers or water courses.

Personal Protective Equipment advice is contained in Section 8 of the SDS

SECTION 7 Handling and storage

Precautions for safe handling

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Safe handling

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Avoid contact with incompatible materials.

Other information

- Store in original containers.
- ▶ Keep containers securely sealed.
- Store in a cool, dry area protected from environmental extremes.
- Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container

Brown tube or bottle

- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.

Storage incompatibility

lone known

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
AlphaLISA CaptSure™ Acceptor Beads (2mg/mL)	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
isothiazolinones, mixed	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
isothiazolinones, mixed	E	≤ 0.1 ppm
Notes:	Occupational exposure banding is a process of assigning chemicals into adverse health outcomes associated with exposure. The output of this performance to a range of exposure concentrations that are expected to protect work	process is an occupational exposure band (OEB), which corresponds

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Individual protection measures, such as personal protective equipment









Eye and face protection

- ▶ Safety glasses with side shields
- Chemical goggles
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.

Skin protection

See Hand protection below

Hands/feet protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care.

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AlphaLISA CaptSure™ Acceptor Beads (2mg/mL)

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

• polychloroprene.

• nitrile rubber.

• butyl rubber.

See Other protection below

No special equipment needed when handling small quantities.

OTHERWISE:

• Overalls.

• Barrier cream.

• Evewash unit.

Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- · Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- · Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- · Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- · Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- · Use approved positive flow mask if significant quantities of dust becomes airborne
- · Try to avoid creating dust conditions.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties White Lyophilysed pellet Appearance Physical state Divided Solid Relative density (Water = 1) Not Available Partition coefficient n-octanol Odour Not Available Not Available Auto-ignition temperature Odour threshold Not Available Not Applicable (°C) Decomposition pH (as supplied) Not Applicable Not Available temperature (°C) Melting point / freezing point Not Available Viscosity (cSt) Not Available (°C) Initial boiling point and Not Available Molecular weight (g/mol) Not Applicable boiling range (°C) Flash point (°C) Not Applicable Taste Not Available **Evaporation rate** Not Available **Explosive properties** Not Available Flammability Not Applicable Oxidising properties Not Available Surface Tension (dyn/cm or Upper Explosive Limit (%) Not Applicable Not Applicable Lower Explosive Limit (%) Not Applicable Volatile Component (%vol) Not Available Vapour pressure (kPa) Not Available Gas group Not Available Solubility in water Miscible pH as a solution (1%) Not Available Vapour density (Air = 1) Not Available VOC g/L Not Available Heat of Combustion (kJ/g) Not Available Ignition Distance (cm) Not Available Flame Duration (s) Flame Height (cm) Not Available Not Available **Enclosed Space Ignition Enclosed Space Ignition** Not Available Not Available Time Equivalent (s/m3) Deflagration Density (g/m3)

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhale

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

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AlphaLISA CaptSure™ Acceptor Beads (2mg/mL)

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Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack Ingestion of corroborating animal or human evidence The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an Skin Contact occupational setting. Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient Eve discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Chronic Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis, caused by particles less than 0.5 micron penetrating and remaining in the lung. TOXICITY IRRITATION AlphaLISA CaptSure™ Acceptor Beads (2mg/mL) Not Available Not Available TOXICITY IRRITATION dermal (rat) LD50: >1008 mg/kg^[1] Eye: adverse effect observed (irreversible damage) $^{[1]}$ isothiazolinones, mixed Inhalation (Rat) LC50: 0.171 mg/l4h^[1] Skin: adverse effect observed (corrosive)^[1] Oral (Rat) LD50: 53 mg/kg^[2] Skin: adverse effect observed (irritating)[1] 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise Legend: specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

The following information refers to contact allergens as a group and may not be specific to this product.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.

In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this aim, it is required that risk assessment of biocidal products is carried out before they can be placed on the market. A central element in the risk assessment of the biocidal products are the utilization instructions that defines the dosage, application method and amount of applications and thus the exposure of humans and the environment to the biocidal substance.

Humans may be exposed to biocidal products in different ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by non-professional users.

ISOTHIAZOLINONES, MIXED

Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%. The use of formaldehyde-releasing preservatives ensures that the level of free formaldehyde in the products is always low but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines.

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.

AlphaLISA CaptSure™ Acceptor Beads (2mg/mL) & ISOTHIAZOLINONES, MIXED

No significant acute toxicological data identified in literature search.

Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	×	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Legend:

★ – Data either not available or does not fill the criteria for classification
✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

AlphaLISA CaptSure™ Acceptor Beads (2mg/mL)	Not Available	Test Duration (hr) Not Available	Species Not Available	Value Not Available	Source Not Available
isothiazolinones, mixed	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.006mg/L	2
	EC50	48h	Crustacea	0.007mg/l	2

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LC50	96h	Fish	0.129mg/l	2
EC50	96h	Algae or other aquatic plants	0.036mg/L	2
NOEC(ECx)	48h	Algae or other aquatic plants	<0.001mg/L	2

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient Bio	ioaccumulation
No	o Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	Consult State Land Waste Management Authority for disposal.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
isothiazolinones, mixed	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
isothiazolinones, mixed	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

isothiazolinones, mixed is found on the following regulatory lists

Not Applicable

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating Self-heating	No
Pyrophoric (Liquid or Solid)	No
	No
Corrosive to metal	No

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AlphaLISA CaptSure™ Acceptor Beads (2mg/mL)

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Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status	
Australia - AIIC / Australia Non- Industrial Use	No (isothiazolinones, mixed)	
Canada - DSL	Yes	
Canada - NDSL	No (isothiazolinones, mixed)	
China - IECSC	Yes	
Europe - EINEC / ELINCS / NLP	No (isothiazolinones, mixed)	
Japan - ENCS	Yes	
Korea - KECI	Yes	
New Zealand - NZIoC	Yes	
Philippines - PICCS	Yes	
USA - TSCA	No (isothiazolinones, mixed)	
Taiwan - TCSI	Yes	
Mexico - INSQ	No (isothiazolinones, mixed)	
Vietnam - NCI	Yes	
Russia - FBEPH	Yes	
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.	

SECTION 16 Other information

Revision Date	25/10/2022
Initial Date	13/07/2022

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	25/10/2022	Disposal considerations - Disposal, Handling and storage - Storage (storage incompatibility)

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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AlphaLISA CaptSure™ Acceptor Beads (2mg/mL)

Print Date: 19/09/2024

Definitions and abbreviations

- PC TWA: Permissible Concentration-Time Weighted Average
 PC STEL: Permissible Concentration-Short Term Exposure Limit
- ► IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ► TEEL: Temporary Emergency Exposure Limit。
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure StandardOSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- ▶ LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European Inventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances
 NLP: No-Longer Polymers

- ▶ ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ► TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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TEL (+61 3) 9572 4700.



Alpha Streptavidin Donor Beads (2mg/mL) TGR BioSciences Pty Ltd (an Abcam Company)

Chemwatch: **5555-08**Version No: **4.1**Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **25/10/2022** Print Date: **19/09/2024** S.GHS.USA.EN.E

SECTION 1 Identification

Product Identifier	
Product name	Alpha Streptavidin Donor Beads (2mg/mL)
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use of Substances/mixtures for Laboratory Research Use Only. Do Not Use for diagnostic, therapeutic or clinical use.
	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

- · · · · · · · · · · · · · · · · · · ·		
Registered company name	TGR BioSciences Pty Ltd (an Abcam Company)	
Address	nit 3-4, 31 George Street Thebarton SA 5031 Australia	
Telephone	+61 08 7228 2141	
Fax	Not Available	
Website	www.tgrbiosciences.com	
Email	ADE.info@abcam.com	

Emergency phone number

Zinoi gono, priorio manipor		
Association / Organisation	Chemtrec Aus/North America/Revvity	
Emergency telephone numbers	+61290372994 (Mon-Fri 8am to 5pm)	
Other emergency telephone numbers	+1703-527-3887/+31505445971	

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Not considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Not Applicable
Label elements	
Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

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Alpha Streptavidin Donor Beads (2mg/mL)

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Not Applicable

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	100	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: Wash out immediately with water. If irritation continues, seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider:

foam.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Special protective equipment and precautions for fire-fighters

Fire Fighting Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. The material is not readily combustible under normal conditions. However, it will break down under fire conditions and the organic component may burn. Not considered to be a significant fire risk. Heat may cause expansion or decomposition with violent rupture of containers. Decomposes on heating and produces toxic fumes of: carbon dioxide (CO2) nitrogen oxides (NOx) other pyrolysis products typical of burning organic material.

SECTION 6 Accidental release measures

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Alpha Streptavidin Donor Beads (2mg/mL)

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Personal precautions, protective equipment and emergency procedures

See section 8

Version No: 4.1

Environmental precautions

See section 12

Methods and material for containment and cleaning up

methods and material for containment and cleaning up	
Minor Spills	 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite.
Major Spills	Minor hazard. ► Clear area of personnel. ► Alert Fire Brigade and tell them location and nature of hazard. ► Control personal contact with the substance, by using protective equipment as required.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling	
Safe handling	 Limit all unnecessary personal contact. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with incompatible materials.
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	Brown tube or brown bottle. Polyethylene or polypropylene container. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	None known

SECTION 8 Exposure controls / personal protection

when making a final choice.

Personal hygiene is a key element of effective hand care.

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2		TEEL-3
Alpha Streptavidin Donor Beads (2mg/mL)	Not Available	Not Available		Not Available
Ingredient	Original IDLH		Revised IDLH	
Alpha Streptavidin Donor Beads (2mg/mL)	Not Available		Not Available	

Exposure controls

Exposure controls	
Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
Individual protection measures, such as personal protective equipment	
Eye and face protection Figure 2. Safety glasses with side shields Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy of describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include the subscription and adsorption for the class of chemicals in use and an account of injury experience.	
Skin protection	See Hand protection below
Hands/feet protection	• Wear general protective gloves, eg. light weight rubber gloves. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed

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Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: Overalls. Barrier cream. Eyewash unit.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical propertie
--

Appearance	Blue liquid; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

nformation	on	toxicological	effects

ormation on toxicological el	fects		
Inhaled		ture of product se health effects or irritation of the respiratory tract (as classified by EC Directives using animal e requires that exposure be kept to a minimum and that suitable control measures be used in an	
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.		
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.		
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).		
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.		
Alpha Streptavidin Donor	TOXICITY	IRRITATION	
Beads (2mg/mL)	Not Available	Not Available	
Legend:	Value obtained from Europe ECHA Regist specified data extracted from RTECS - Regist	ered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise ster of Toxic Effect of chemical Substances	

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Alpha Streptavidin Donor Beads (2mg/mL)

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Alpha Streptavidin Donor Beads (2mg/mL)	No significant acute toxicological data identified in literature search.		
Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	×	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Legend: X – Data either not available or does not fill the criteria for classification

v – Data available to make classification

SECTION 12 Ecological information

Toxicity

Version No: 4.1

Alpha Streptavidin Donor Beads (2mg/mL)	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation	
	No Data available for all ingredients	
Mobility in soil		

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment r	nethods
-------------------	---------

Product / Packaging disposal Consult State Land Waste Management Authority for disposal.

SECTION 14 Transport information

Labels Required

·	
Marine Pollutant	NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group	
14.7.3. Transport in bul	k in accordance with the IGC Code	
Product name	Shin Tyne	

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

Additional Regulatory Information

Not Applicable

Federal Regulations

Version No: 4.1

Alpha Streptavidin Donor Beads (2mg/mL)

Issue Date: **25/10/2022**Print Date: **19/09/2024**

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

reactional involvery otatao	
National Inventory	Status
Australia - AIIC / Australia Non- Industrial Use	Not Available
Canada - DSL	Not Available
Canada - NDSL	Not Available
China - IECSC	Not Available
Europe - EINEC / ELINCS / NLP	Not Available
Japan - ENCS	Not Available
Korea - KECI	Not Available
New Zealand - NZIoC	Not Available
Philippines - PICCS	Not Available
USA - TSCA	Not Available
Taiwan - TCSI	Not Available
Mexico - INSQ	Not Available
Vietnam - NCI	Not Available
Russia - FBEPH	Not Available
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	25/10/2022
Initial Date	12/07/2022

Chemwatch: 5555-08 Version No: 4.1

Alpha Streptavidin Donor Beads (2mg/mL)

Issue Date: 25/10/2022 Print Date: 19/09/2024

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	16/08/2022	Name
4.1	25/10/2022	Disposal considerations - Disposal, Handling and storage - Storage (storage incompatibility)

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- ▶ PC TWA: Permissible Concentration-Time Weighted Average
- ▶ PC STEL: Permissible Concentration-Short Term Exposure Limit
- ► IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ► TEEL: Temporary Emergency Exposure Limit。
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- ► TLV: Threshold Limit Value
- ▶ LOD: Limit Of Detection
- OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ► ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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TEL (+61 3) 9572 4700.



Positive Control Lysate - Ultra TGR BioSciences Pty Ltd (an Abcam Company)

Chemwatch: **5555-32**Version No: **4.1**Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **25/10/2022** Print Date: **19/09/2024** S.GHS.USA.EN.E

SECTION 1 Identification

Product Identifier	
Product name	Positive Control Lysate - Ultra
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use of Substances/mixtures for Laboratory Research Use Only. Do Not Use for diagnostic, therapeutic or clinical use.
	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	TGR BioSciences Pty Ltd (an Abcam Company)	
Address	Unit 3-4, 31 George Street Thebarton SA 5031 Australia	
Telephone	+61 08 7228 2141	
Fax	Not Available	
Website	www.tgrbiosciences.com	
Email	ADE.info@abcam.com	

Emergency phone number

Association / Organisation	Chemtrec Aus/North America/Revvity	
Emergency telephone numbers	+61290372994 (Mon-Fri 8am to 5pm)	
Other emergency telephone numbers	+1703-527-3887/+31505445971	

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Not considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Not Applicable
Label elements	
Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Chemwatch: **5555-32** Page **2** of **8**

Positive Control Lysate - Ultra

Issue Date: **25/10/2022**Print Date: **19/09/2024**

Not Applicable

Version No: 4.1

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
55965-84-9	<0.01	isothiazolinones, mixed
9002-93-1	>0.1	p-tert-octylphenol ethoxylate
Not Available	balance	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: • Wash out immediately with water. • If irritation continues, seek medical attention. • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.	
Skin Contact	If skin or hair contact occurs: ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.	
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary. 	
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. 	

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- ▶ There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves in the event of a fire.
 Prevent, by any means available, spillage from entering drains or water courses.
- Use fire fighting procedures suitable for surrounding area.
- Fire/Explosion Hazard
- ▶ Non combustibl
- Not considered a significant fire risk, however containers may burn.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Chemwatch: 5555-32 Version No: 4.1

Positive Control Lysate - Ultra

Issue Date: 25/10/2022 Print Date: 19/09/2024

Methods and material for containment and cleaning up

Minor Spills	 Clean up all spills immediately. Avoid contact with skin and eyes. Wear impervious gloves and safety glasses. Use dry clean up procedures and avoid generating dust.
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Control personal contact with the substance, by using protective equipment and dust respirator. Prevent spillage from entering drains, sewers or water courses.

Personal Protective Equipment advice is contained in Section 8 of the SDS

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Avoid contact with incompatible materials
- Other information
- Store in original containers. Keep containers securely sealed.
- Store in a cool, dry area protected from environmental extremes.
- Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container

- Polvethylene or polypropylene container.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

Storage incompatibility

None known

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2		TEEL-3
Positive Control Lysate - Ultra	Not Available	Not Available		Not Available
Ingredient	Original IDLH		Revised IDLH	
isothiazolinones, mixed	Not Available		Not Available	
p-tert-octylphenol ethoxylate	Not Available		Not Available	

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
isothiazolinones, mixed	E	≤ 0.1 ppm
p-tert-octylphenol ethoxylate	E	≤ 0.1 ppm
Notes:	Occupational exposure banding is a process of assigning chemicals into adverse health outcomes associated with exposure. The output of this per to a range of exposure concentrations that are expected to protect work	process is an occupational exposure band (OEB), which corresponds

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Individual protection measures, such as personal protective equipment









Eye and face protection

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.

Skin protection

See Hand protection below

Hands/feet protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care.

Positive Control Lysate - Ultra

	Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present. • polychloroprene. • nitrile rubber. • butyl rubber.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: Overalls. Barrier cream. Eyewash unit.

Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- · Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- · Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- · Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- · Use approved positive flow mask if significant quantities of dust becomes airborne.
- · Try to avoid creating dust conditions.

SECTION 9 Physical and chemical properties

Appearance	White Lyophilysed pellet.		
Physical state	Divided Solid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhale

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

Chemwatch: **5555-32**Version No: **4.1**

Positive Control Lysate - Ultra

Issue Date: **25/10/2022**Print Date: **19/09/2024**

Pessive with reported exercision, variation, any electrical and control of control control in the control in				
Sin Contact Sin Contact The recitable control types Foolitive Control types Logorith Logori		disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidn	ney damage h	nas been sustained, proper screenings should be
The restartal is not fought to produce advance heath effects or eith initiation following contact (an desarted by CD inventions, and in information compatitions and interest of the compatition and interest of the compatition and interest of the compatition and interest on the c	Ingestion	The state of the s	on systems as	s "harmful by ingestion". This is because of the lack
decoming of the control characterised by tearing or compacting and entires (see with windburn). Slight absorate eatings may also result.	Skin Contact	The material is not thought to produce adverse health effects or skin irritatio models). Nevertheless, good hygiene practice requires that exposure be ke		
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Not Available Not Available Not Available Not Available	Chronic	animal models); nevertheless exposure by all routes should be minimised a Long term exposure to high dust concentrations may cause changes in lung	is a matter of	course.
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It value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTEGS - Register of Toxoc Effect of chemical Substances The following information refers to contact allergens as a group and may not be specific to this product. Contact altergies quickly manifest themselves as contact occuram, more rarely as unificant or Quinck's cedema. The pathogenesis of contact accuram involves a cell-mediated off (Imphocytes) immune reaction of the delayed type. Other allergie skin reactions, e.g. contact unificant, involve antibody-mediated immune reactions in the first delayed type. Other allergie skin reactions, e.g. contact unificant in the first shape of the delayed type. Other allergies skin reactions, e.g. contact unificant in the first shape of the delayed type. Other allergies skin reactions, e.g. contact unificant in the first shape of the delayed type. Other allergies skin reactions, e.g. contact unificant in the first shape of the delayed type. Other allergies skin reactions, e.g. contact unificant in the first shape of the delayed type. Other allergies skin reactions, e.g. contact unificant in the first shape of the delayed type. Other allergies skin reactions, e.g. contact unificant in the first shape of the delayed type. In the shape of the delayed type of the delayed type of the shape	p-tert-octylphenol ethoxylate	Oral (Rat) LD50: 1800 mg/kg ^[2]	re (rabbit): 1 n	ng - moderate
The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as utilicaria or Quincke's oedema. The pathogenesis of contact eczema involves a relicionate of the delayed by the allergies glicion for the delayed by the allergies glicion reactions, e.g. contact utilizatis, involves antibo-privated and immune reactions. Unitaria, involve antibo-privated and immune reactions. Unitaria in the required that in the season of the products of products on the manifest of applications and thus the exposure of humans and the environment to the biocidal substance. Humans may be exposed to biocidal products and interest ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by monitorial products and the products and an administrative entire that the level of free formalichelyde in the maximum authorial concentration of referomalichelyde in the reaction of causing cancers (informatines) when used in formulative way in the occupation and acceptance of causing cancers (informations) when used in formulations containing ammes. Price of the products a laway so that formalichelyde in the products and any solid causing cancer (informations) when used in formulations containing ammes. Price of the products are produced and products and products and products and an acceptance and an acceptance of presistent asthma-like symptoms was continued and products and products a		Sk	in (human): 2	! mg/3d -l - mild
Contact allergies quickly manifest themselves as contact eczena, more rarely as uniteriation of Outnote's oederma. The pathogenesis of contact eczena involves a cell-incellated (If ymphocytes) immune reactions of the delayed ymp. Chlera allergies desir reactions, e.g., contact urticaria, involve antibody-mediated immune reactions. In light of potential adverser effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this earn, it is required thair risk assessment of biocided products is element on the placed or the market. A central element in spiriture and the provision of the protection of human and animal health and the environment of applications and thus the exposure of humans and the environment to the biocidial substance. Humans may be exposed to biocidal products in effortent ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidial products are commonly available for private use by non-professional users. Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde in the products are intended for industrial sectors or professional users. Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration exceeds 0.05%. The user of formaldehyde in the products is always to with sufficient to inhibit microbial growth - if the material and yellow the intended products in different ways in both sufficient to the products are accordent by the intendent of which the desired products are concern intronamental expenses or accordent by the intendent of the organism. However there is a concern has foreconstanced and products are accordent to the products in the products are accordent to the products and according in the materi	Legend:			otained from manufacturer's SDS. Unless otherwise
P-TERT-OCTYLPHENOL ETHOXYLATE P-TERT-OCTYLPHENOL (8 and below) were considered safe as used, whereas short-chain nonoxynols (8 and below) were considered safe as used in rinse-off products and seas used in rinse-off products and safe at concentrations less than 50% in leave-on formulations. Acute exposure of hamsters to Octoxynol-9 by bronchopulations as used in rinse-off products and seas used in rinse-off prod	ISOTHIAZOLINONES, MIXED	urticaria, involve antibody-mediated immune reactions. In light of potential adverse effects, and to ensure a harmonised risk assess biocides has been established with the objective of ensuring a high level of this aim, it is required that risk assessment of biocidal products is carried outher risk assessment of the biocidal products are the utilization instructions the applications and thus the exposure of humans and the environment to the behumans may be exposed to biocidal products in different ways in both occupations and the exposure of humans and the environment to the behumans may be exposed to biocidal products in different ways in both occupations of the professional users. Formalded for industrial sectors or professional uses only, whereas other biociprofessional users. Formaldehyde generators (releasers) are often used as preservatives. The and must be labelled with the warning sign "contains formaldehyde" where it releasing preservatives ensures that the level of free formaldehyde in the predistrupts metabolism to cause death of the organism. However there is a conficuration of causing cancers (nitrosamines) when used in formulations containing among the material may be irritating to the eye, with prolonged contact causing informaterial may cause skin irritation after prolonged or repeated exposure production of vesicles, scaling and thickening of the skin. Asthma-like symptoms may continue for months or even years after exposure production. Main criteria for diagnosing RADS include the absence of previce of persistent asthma-like symptoms within minutes to hours of a documente include a reversible airflow pattern on lung function tests, moderate to sever and the lack of minimal lymphocytic inflammation, without eosinophilia.	sment and ma protection of at before they hat defines the products apational and cidal products maximum authe concentra roducts is alw noern that for nines. Plammation. Research and may pro- cure to the mate can occur afte cous airways ded exposure to	anagement, the EU regulatory framework for human and animal health and the environment. To can be placed on the market. A central element in the dosage, application method and amount of ance. domestic settings. Many biocidal products are are commonly available for private use by non-thorised concentration of free formaldehyde is 0.2% attion exceeds 0.05%. The use of formaldehyde-aivs low but sufficient to inhibit microbial growth - it maldehyde generators can produce amines capable depeated or prolonged exposure to irritants may aduce on contact skin redness, swelling, the serial ends. This may be due to a non-allergic rexposure to high levels of highly irritating lisease in a non-atopic individual, with sudden onset to the irritant. Other criteria for diagnosis of RADS
Vitra & ISOTHIAZOLINONES, MIXED No significant acute toxicological data identified in literature search.		Octoxynols of various chain lengths as well as octoxynol salts and organic a agents, surfactants-cleansing agents, surfactant-solubilizing agents, or surfactoncentrations ranging from 0.0008% to 25%, with most less than 5.0%. Th nonoxynols (9 and above) were considered safe as used, whereas short-ch rinse-off products and safe at concentrations less than 5% in leave-on form bronchopulmonary lavage produced pneumonia, pulmonary edema, and int Humans have regular contact with alcohol ethoxylates through a variety of i other cleaning products. Exposure to these chemicals can occur through sw acute toxicity show that relatively high volumes would have to occur to prod ethoxylates has ever been reported. Both laboratory and animal testing has shown that there is no evidence for a	actants-hydro ne octoxynols nain nonoxyno ulations. Acut tra-alveolar he industrial and vallowing, inha luce any toxic	ptropes in a wide variety of cosmetic products at are chemically similar to nonoxynols Long-chain ols (8 and below) were considered safe as used in the exposure of hamsters to Octoxynol-9 by emorrhage. consumer products such as soaps, detergents and alation, or contact with the skin or eyes. Studies of a response. No death due to poisoning with alcohol
Skin Irritation/Corrosion Serious Eye Damage/Irritation Respiratory or Skin X STOT - Repeated Exposure X STOT - Repeated Exposure	Ultra & ISOTHIAZOLINONES,			
Skin Irritation/Corrosion Serious Eye Damage/Irritation Respiratory or Skin X STOT - Repeated Exposure X STOT - Repeated Exposure	Acute Toxicity	X	nogenicity	×
Damage/Irritation Respiratory or Skin	·			
Respiratory or Skin	•	X STOT - Single	Exposure	×
sensitisation Sensitisation	Respiratory or Skin	X STOT - Repeated	Exposure	×

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Mutagenicity X Aspiration Hazard

Legend: X – Data either not available or does not fill the criteria for classification

- Data available to make classification

SECTION 12 Ecological information

Toxicity

Version No: 4.1

Danisira Cantaal Larata	Endpoint	Test Duration (hr)	Species	Value	Source
Positive Control Lysate - Ultra	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.006mg/L	2
	EC50	48h	Crustacea	0.007mg/l	2
isothiazolinones, mixed	LC50	96h	Fish	0.129mg/l	2
	EC50	96h	Algae or other aquatic plants	0.036mg/L	2
	NOEC(ECx)	48h	Algae or other aquatic plants	<0.001mg/L	2
	Endpoint	Test Duration (hr)	Species	Value	Source
p-tert-octylphenol ethoxylate	LC50	96h	Fish	>2.8<3.2mg/L	4
	EC50(ECx)	96h	Fish	3mg/L	5
Legend:	Ecotox databas		ECHA Registered Substances - Ecotoxicological Infor C Aquatic Hazard Assessment Data 6. NITE (Japan)		

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
p-tert-octylphenol ethoxylate	HIGH	HIGH

Bioaccumulative potential

zioacoaiiiaiii potoiiiai	
Ingredient	Bioaccumulation
p-tert-octylphenol ethoxylate	HIGH (LogKOW = 4.863)

Mobility in soil

Ingredient	Mobility
p-tert-octylphenol ethoxylate	LOW (Log KOC = 699.2)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal Consult State Land Waste Management Authority for disposal.
--

SECTION 14 Transport information

Labels Required

——————————————————————————————————————	
Marine Pollutant	NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group	
isothiazolinones, mixed	Not Available	
p-tert-octylphenol ethoxylate	Not Available	

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
isothiazolinones, mixed	Not Available
p-tert-octylphenol ethoxylate	Not Available

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SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

isothiazolinones, mixed is found on the following regulatory lists

Not Applicable

p-tert-octylphenol ethoxylate is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

a continue in the individual categories	
Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	
Skin Corrosion or Irritation	
Respiratory or Skin Sensitization	
Serious eye damage or eye irritation	
Specific target organ toxicity (single or repeated exposure)	
Aspiration Hazard	
Germ cell mutagenicity	
Simple Asphyxiant	
Hazards Not Otherwise Classified	

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

National Inventory Status			
National Inventory	Status		
Australia - AIIC / Australia Non- Industrial Use	No (isothiazolinones, mixed)		
Canada - DSL	Yes		
Canada - NDSL	No (isothiazolinones, mixed; p-tert-octylphenol ethoxylate)		
China - IECSC	Yes		
Europe - EINEC / ELINCS / NLP	No (isothiazolinones, mixed; p-tert-octylphenol ethoxylate)		
Japan - ENCS	Yes		
Korea - KECI	Yes		
New Zealand - NZIoC	Yes		

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National Inventory	Status	
Philippines - PICCS	Yes	
USA - TSCA	No (isothiazolinones, mixed)	
Taiwan - TCSI	Yes	
Mexico - INSQ	No (isothiazolinones, mixed; p-tert-octylphenol ethoxylate)	
Vietnam - NCI	Yes	
Russia - FBEPH	Yes	
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.	

SECTION 16 Other information

Revision Date	25/10/2022
Initial Date	19/07/2022

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	31/08/2022	Composition / information on ingredients - Ingredients
4.1	25/10/2022	Disposal considerations - Disposal, Handling and storage - Storage (storage incompatibility), Handling and storage - Storage (suitable container)

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be

Definitions and abbreviations

- ▶ PC TWA: Permissible Concentration-Time Weighted Average
- ▶ PC STEL: Permissible Concentration-Short Term Exposure Limit
- ▶ IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ► TEEL: Temporary Emergency Exposure Limit。
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
 NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
 FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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