SAFETY DATA SHEET

Section 1 - Identification

Product Identifier

Product Name **TB Quad IV**

Recommended Use Laboratory chemicals.
Uses advised against No Information available

Product Code	**R03445**
Address	Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand
Emergency Tel.	**CHEMTREC®** **09 980 6780 or +64 9 980 6780**
Telephone / Fax Numbers	Tel: 09 980 6700 Fax: 09 980 6788
E-mail address	ANZinfo@thermofisher.com

Section 2 - Hazard(s) Identification

Classification under Work Safe New Zealand

Not classified as hazardous according to criteria of EPA New Zealand

GHS Classification

Physical hazards
Based on available data, the classification criteria are not met

Health hazards
Based on available data, the classification criteria are not met

Environmental hazards
Based on available data, the classification criteria are not met

Label Elements None required

Other hazards which do not result in classification
This product does not contain any known or suspected endocrine disruptors

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Glucose	50-99-7	0.18
Glycerin	56-81-5	0.49
Albumins, blood serum	9048-46-8	0.45
Water	7732-18-5	97.04
Sodium chloride	7647-14-5	Trace
Oleic acid	112-80-1	Trace
Catalase	9001-05-2	Trace
Capreomycin, sulfate (salt)	1405-37-4	Trace
Sodium phosphate dibasic	7558-79-4	Trace
Sodium phosphate, monobasic	7558-80-7	Trace
Kanamycin sulphate	25389-94-0	Trace
4-[[4-(Dimethylamino)phenyl][4-(dimethyliminio)cyclohexa-2,5-dien-1-ylidene]methyl]-N-ethyl-N,N-dimethylanilinium bromide chloride, compound with zinc chloride	7114-03-6	Trace
FD&C yellow No. 5	1934-21-0	Trace
Amikacin	37517-28-5	Trace

Section 4 - First Aid Measures

Description of first aid measures

New Zealand Emergency Tel. CHEMTREC®
09 980 6780 or +64 9 980 6780

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Self-Protection of the First Aider No special precautions required.

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and effects None reasonably foreseeable.

Notes to Physician Treat symptomatically.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons
No information available.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
None under normal use conditions.

Special protective equipment and precautions for fire fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Emergency procedures
Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up
Sweep up and shovel into suitable containers for disposal. Provide adequate ventilation.

Precautions to prevent secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations

Reference to Other Sections
Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Advice on safe handling
Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials
None known.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Control parameters

Exposure limits
NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor
UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.
AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]
Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

Component	New Zealand WEL	Australia	ACGIH TLV	The United Kingdom
Glycerin	TWA: 10 mg/m³	TWA: 10 mg/m³		TWA: 10 mg/m³ 8 hr (mist

				only)

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

Appropriate engineering controls

Engineering Measures
None under normal use conditions.

Individual protection measures, such as personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Disposable gloves.	See manufacturers recommendations	-	AS/NZS 2161	(minimum requirement)

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Repiratory Protection Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of repiratory protective devices

Recommended Filter type: Particle filter (or AUS/NZ equivalent)

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State Solid Gel Consistency

Appearance
Odor No information available
Odor Threshold No data available
pH No information available
Melting Point/Range No data available
Softening Point No data available
Boiling Point/Range No information available
Flammability (liquid) No data available
Flammability (solid,gas) No information available
Explosion Limits No data available

Flash Point No information available °C / °F **Method -** No information available
Autoignition Temperature No data available
Decomposition Temperature No data available

Viscosity	No data available	
Water Solubility	No information available	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	**log Pow**	
Glycerin	-1.75	
Oleic acid	7.73	
FD&C yellow No. 5	-1.572	
Vapor Pressure	No data available	
Density / Specific Gravity	No data available	
Bulk Density	No data available	
Vapor Density	No data available	(Air = 1.0)
Particle characteristics	No data available	

Other information

VOC Content(%) 0.49

Section 10 - Stability and Reactivity

Reactivity None known, based on information available

Stability Stable under normal conditions.

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

Conditions to Avoid Incompatible products, Excess heat, Avoid dust formation.

Incompatible Materials None known.

Hazardous Decomposition Products None under normal use conditions.

Section 11 - Toxicological Information

Acute Effects

Information on likely routes of exposure

Product Information

Inhalation	Not an expected route of exposure.
Eyes	Not an expected route of exposure.
Skin	No known effect based on information supplied.
Ingestion	Not an expected route of exposure.

Numerical measures of toxicity

(a) acute toxicity;

Oral	Based on available data, the classification criteria are not met
Dermal	Based on available data, the classification criteria are not met
Inhalation	Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation

Glucose	25.8 g/kg (Rat)		
Glycerin	12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 2.75 mg/L/4h (Rat)(mist)
Water	-	-	-
Sodium chloride	LD50 = 3 g/kg (Rat)	LD50 > 10000 mg/kg (Rabbit)	LC50 > 42 mg/L (Rat) 1 h
Oleic acid	LD50 = 25 g/kg (Rat)		
Sodium phosphate dibasic	LD50 = 17 g/kg (Rat)		
Sodium phosphate, monobasic	LD50 = 8290 mg/kg (Rat)	LD50 > 7940 mg/kg (Rabbit)	LC50 > 0.83 mg/L (Rat) 4 h
Kanamycin sulphate	17500 mg/kg (Mouse)		
FD&C yellow No. 5	12750 mg/kg (Mouse)		

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

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

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and delayed
No information available.

Section 12 - Ecological Information

Ecotoxicity

Aquatic ecotoxicity Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Glycerin	LC50: 51 - 57 mL/L, 96h static (Oncorhynchus mykiss)			
Sodium chloride	Pimephals prome:	EC50: 1000 mg/L/48h		

	LC50: 7650 mg/L/96h			
Oleic acid	LC50: = 205 mg/L, 96h static (Pimephales promelas)			
FD&C yellow No. 5	LC50: > 1000 ppm/48 h (Oryzias latipes)			

Terrestrial ecotoxicity

Component	Earthworm	Avian	Honeybees
Sodium chloride	Acute toxicity: LC50 0.1 - 1 mg/cm2 (Eisenia foetida, 48 h, filter paper)		

Persistence and Degradability No information available

Bioaccumulative Potential No information available

Component	log Pow	Bioconcentration factor (BCF)
Glycerin	-1.75	No data available
Oleic acid	7.73	44000
FD&C yellow No. 5	-1.572	No data available

Mobility No information available. .

Other adverse effects

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste treatment methods

Waste from Residues/Unused Products Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

Other Information Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations .

Section 14 - Transport Information

NZS 5433:2020 Not regulated

IATA Not regulated

IMDG/IMO Not regulated

Environmental hazards	No hazards identified
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable, packaged goods
Special Precautions	No special precautions required. Please refer to the applicable dangerous goods regulations for additional information.
Additional information	None known

Section 15 - Regulatory Information

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

National Regulations
There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements
Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

Prohibition or notification/licensing requirements
Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

International Regulations

Ozone Depletion Potential	This product does not contain any known or suspected substance
Persistent Organic Pollutant	This product does not contain any known or suspected substance
Rotterdam Convention (PIC)	Not applicable

Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Catalase	-	Use restricted. See item 75. (see link for restriction details)	-
Sodium phosphate, monobasic	-	-	-
FD&C yellow No. 5	-	Use restricted. See item 75. (see link for restriction details)	-
Amikacin	-	Use restricted. See item 75. (see link for restriction details)	-

https://echa.europa.eu/substances-restricted-under-reach

International Inventories

New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	NZIoC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
Glucose	50-99-7	X	X	200-075-1	-	-	KE-17727	X	X
Glycerin	56-81-5	X	X	200-289-5	-	-	KE-29297	X	X
Albumins, blood serum	9048-46-8	X	X	232-936-2	-	-	KE-05-001 1	X	X
Water	7732-18-5	X	X	231-791-2	-	-	KE-35400	X	X
Sodium chloride	7647-14-5	X	X	231-598-3	-	-	KE-31387	X	X
Oleic acid	112-80-1	X	X	204-007-1	-	-	KE-26450	X	X
Catalase	9001-05-2	X	X	232-577-1	-	-	99-3-1168	X	X
Capreomycin, sulfate (salt)	1405-37-4	-	-	215-776-8	-	-	-	-	X
Sodium phosphate dibasic	7558-79-4	X	X	231-448-7	-	-	KE-12344	X	X
Sodium phosphate, monobasic	7558-80-7	X	X	231-449-2	-	-	KE-31577	X	X
Kanamycin sulphate	25389-94-0	X	X	246-933-9	-	-	KE-21771	X	X
4-[[4-(Dimethylamino)phenyl][4-(dimethyliminio)cyclohexa-2,5-dien-1-ylidene]methyl]-N-ethyl-N,N-dimethylanilinium bromide chloride, compound with zinc chloride	7114-03-6	X	-	230-415-4	-	-	-	-	X
FD&C yellow No. 5	1934-21-0	X	X	217-699-5	-	-	KE-06857	X	X
Amikacin	37517-28-5	-	-	253-538-5	-	-	KE-05-120 4	-	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	PICCS	ISHL	ENCS
Glucose	50-99-7	X	ACTIVE	X	-	X	X	X
Glycerin	56-81-5	X	ACTIVE	X	-	X	X	X
Albumins, blood serum	9048-46-8	X	ACTIVE	X	-	X	-	-
Water	7732-18-5	X	ACTIVE	X	-	X	-	X
Sodium chloride	7647-14-5	X	ACTIVE	X	-	X	X	X
Oleic acid	112-80-1	X	ACTIVE	X	-	X	X	X
Catalase	9001-05-2	X	ACTIVE	X	-	X	X	-
Capreomycin, sulfate (salt)	1405-37-4	-	-	-	-	-	X	X
Sodium phosphate dibasic	7558-79-4	X	ACTIVE	X	-	X	X	X
Sodium phosphate, monobasic	7558-80-7	X	ACTIVE	X	-	X	X	X
Kanamycin sulphate	25389-94-0	-	-	-	-	X	-	-
4-[[4-(Dimethylamino)phenyl][4-(dimethyliminio)cyclohexa-2,5-dien-1-ylidene]methyl]-N-ethyl-N,N-dimethylanilinium bromide chloride, compound with zinc chloride	7114-03-6	-	-	-	-	-	-	-
FD&C yellow No. 5	1934-21-0	X	ACTIVE	X	-	X	X	X
Amikacin	37517-28-5	-	-	X	-	-	-	-

Legend: X - Listed '-' - Not Listed **KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Section 16 - Other Information

This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations

Legend

NZIoC - New Zealand Inventory of Chemicals
AICS - Australian Inventory of Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
CAS - Chemical Abstracts Service
TWA - Time Weighted Average
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration
NZS 5433:2020 - Transport of Dangerous Goods on Land
OECD - Organisation for Economic Co-operation and Development
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

MARPOL - International Convention for the Prevention of Pollution from Ships
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
WEL - Workplace Exposure Limit
DNEL - Derived No Effect Level
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative
VOC - (Volatile Organic Compound)
ADG - Australian Code for the Transport of Dangerous Goods by Road and Rail
LC50 - Lethal Concentration 50%
ATE - Acute Toxicity Estimate
RPE - Respiratory Protective Equipment
NOEC - No Observed Effect Concentration
BCF - Bioconcentration factor
PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data
HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS
EPA Guide to classifying hazardous substances in New Zealand
EPA - Assigning a product to an existing HSNO approval guide

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Revision Date	05-Jul-2023
Revision Summary	Not applicable

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet