SAFETY DATA SHEET

Australian statement of hazardous nature : Classified as hazardous according to criteria of Safe Work Australia

Section 1 - Identification

Product Name **Nitrate Interference Suppressor Solution**

Product Code	**ORI930710**
Address	ThermoFisher Scientific Australia Pty Ltd 5 Caribbean Drive, Scoresby VICTORIA 3179, Australia
Emergency Tel.	**CHEMTREC®** **03 9757 4559 or +613 9757 4559**
Telephone / Fax Numbers	Tel: 1300 735 292 Fax: 1800 067 639
E-mail address	ANZinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Uses advised against This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards

Oxidizing liquids	Category 3

Health hazards

Serious Eye Damage/Eye Irritation	Category 2
Reproductive Toxicity	Category 1B

Environmental hazards
No hazards identified

Label Elements


Flame Over Circle


Health Hazard


Exclamation Mark

Signal Word **Danger**

Hazard Statements
H272 - May intensify fire; oxidizer
H319 - Causes serious eye irritation
H360 - May damage fertility or the unborn child

Precautionary Statements
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P220 - Keep away from clothing and other combustible materials
P221 - Take any precaution to avoid mixing with combustibles
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear eye protection/ face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P403 - Store in a well-ventilated place
P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

Toxic to terrestrial vertebrates
This product does not contain any known or suspected endocrine disruptors

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Water	7732-18-5	>99
Aluminum sulfate	10043-01-3	<2
Sulfuric acid, disilver(1+) salt	10294-26-5	<1
Sulfamic acid	5329-14-6	<1
Boric acid (H3BO3)	10043-35-3	<1

Section 4 - First Aid Measures

Inhalation Remove to fresh air.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

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

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and effects No information available.

Notes to Physician Treat symptomatically.

Section 5 - Fire Fighting Measures

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

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

Specific Hazards Arising from the Chemical
Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.). None reasonably foreseeable.

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

Emergency procedures
Ensure adequate ventilation.

Environmental Precautions
See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up

Clean-up methods - small spillage
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

Clean-up methods - large spillage
Typically only supplied is small quantiites as packaged goods.
If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

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

Section 7 - Handling and Storage

Precautions for Safe Handling
Keep away from clothing and other combustible materials.

Conditions for Safe Storage, Including any Incompatibilities
Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials.

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

Section 8 - Exposure Controls and Personal Protection

Exposure limits
DE - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011
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
ACGIH - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.
UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Aluminum sulfate	TWA: 2 mg/m³			STEL: 6 mg/m³ 15 min TWA: 2 mg/m³ 8 hr	
Sulfuric acid, disilver(1+) salt	TWA: 0.01 mg/m³		TWA: 0.01 mg/m³	STEL: 0.03 mg/m³ 15 min TWA: 0.01 mg/m³ 8 hr	TWA: 0.01 mg/m³ (8 Stunden). AGW - exposure factor 2 TWA: 0.01 mg/m³ (8 Stunden). MAK Höhepunkt: 0.02 mg/m³
Boric acid (H3BO3)			TWA: 2 mg/m³ STEL: 6 mg/m³		TWA: 0.5 mg/m³ (8 Stunden). AGW - exposure factor 2 TWA: 10 mg/m³ (8 Stunden). MAK when boric acid and tetraborates are present together, the MAK value is 0.75 mg boron/m³ Höhepunkt: 10 mg/m³

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

Exposure Controls
Engineering Measures
None under normal use conditions. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye Protection — 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
Natural rubber Nitrile rubber Neoprene PVC	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 Particulates filter conforming to EN 143 (or AUS/NZ equivalent)
Recommended half mask:- Particle filtering: EN149:2001 (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

Appearance	Colorless	
Physical State	Liquid	
Odor	No information available	
Odor Threshold	No data available	
pH	3	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	100 °C / 212 °F	
Flash Point	Not applicable	**Method -** No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	No data available	
Bulk Density	Not applicable	Liquid
Water Solubility	Soluble in water	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
Sulfamic acid	0.1
Boric acid (H3BO3)	-0.757

Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	Oxidizer

Other information

Section 10 - Stability and Reactivity

Reactivity Yes

Stability Oxidizer: Contact with combustible/organic material may cause fire.

Conditions to Avoid Incompatible products, Excess heat, Combustible material.

Incompatible Materials Strong reducing agents, Combustible material.

Hazardous Decomposition Products None under normal use conditions.

Hazardous Polymerization No information available.

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(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
Water	-	-	-
Aluminum sulfate	6207 mg/kg (Mouse)	>5 g/kg (Rabbit)	
Sulfamic acid	3160 mg/kg (Rat)	>2000 mg/kg (Rat)	
Boric acid (H3BO3)	2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	Not listed

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; Category 2

(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

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Category 1B

(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 effects .

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Aluminum sulfate	LC50: = 27.9 mg/L, 96h static (Pimephales promelas)	136 mg/L EC50 15 min 38.2 mg/L EC50 48h		
Sulfamic acid	LC50: 70.3 mg/L/96h (Pimephales promelas) OECD 203	EC50: 71.6 mg/L/48h (Daphnia magna) OECD 202	EC50: 48 mg/L/72h (Scenedesmus subspicatus) OECD 201	EC50: >200 mg/L/3h (Activated sludge)
Boric acid (H3BO3)	Gambusia affinis: LC50:	EC50: 115 - 153 mg/L,	-	-

	5600 mg/L/96h	48h (Daphnia magna)		

Persistence and Degradability

Persistence Soluble in water, Persistence is unlikely, based on information available.

Bioaccumulative Potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Aluminum sulfate		>=76 - <=190 dimensionless 362 dimensionless
Sulfamic acid	0.1	No data available
Boric acid (H3BO3)	-0.757	0 dimensionless

Mobility The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility Highly mobile in soils

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 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 Dispose of this container to hazardous or special waste collection point.

Other Information Chemical wastes should be disposed through a licensed commercial waste collection service. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

Section 14 - Transport Information

IMDG/IMO Not regulated

ADG Not regulated

Component	Hazchem Code
Sulfuric acid, disilver(1+) salt 10294-26-5 (<1)	2Z
Sulfamic acid 5329-14-6 (<1)	2X

IATA Not regulated

Environmental hazards No hazards identified

Special Precautions No special precautions required

Additional information None known

Section 15 - Regulatory Information

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

National Regulations **Australia**

See section 8 for national exposure control parameters.

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

Component	Standard for the Uniform Scheduling of Medicines and Poisons
Sulfuric acid, disilver(1+) salt - 10294-26-5	Schedule 2 listed
Sulfamic acid - 5329-14-6	Schedule 5 listed - except its salts and derivatives;in preparations containing <=10% of Sulfamic acid Schedule 6 listed - except its salts and derivatives;except when included in Schedule 5
Boric acid (H3BO3) - 10043-35-3	Schedule 4 listed - for human therapeutic use except: in preparations for internal use containing <=6 mg Boron per recommended daily dose, or in preparations for dermal use containing <=0.35% of Boron, which are not for paediatric or antifungal use, or when present as an excipient Schedule 5 listed - except: a) when included in Schedule 4, or b) in cosmetic hand cleaning preparations when labelled with a warning to the following effect: NOT TO BE USED FOR CHILDREN UNDER 3 YEARS OF AGE, and if the concentration of free soluble Borates >1.5% (as Boric acid), with the words: NOT TO BE USED ON PEELING OR IRRITATED SKIN, or c) in cosmetic Talc preparations containing <=5% calculated as Boric acid when labelled with a warning to the following effect: NOT TO BE USED FOR CHILDREN UNDER 3 YEARS OF AGE, and if the concentration of free soluble Borates >1.5% (as Boric acid), with the words: NOT TO BE USED ON PEELING OR IRRITATED SKIN, or d) in cosmetic oral hygiene preparations containing <=0.1% calculated as Boric acid when labelled with a warning to the following effect: NOT TO BE SWALLOWED. NOT TO BE USED FOR CHILDREN UNDER 3 YEARS OF AGE, or e) in other cosmetic preparations containing <=3% calculated as Boric acid when labelled with a warning to the following effect: NOT TO BE USED FOR CHILDREN UNDER 3 YEARS OF AGE, and if the concentration of free soluble Borates >1.5% (as Boric acid), with the words: NOT TO BE USED ON PEELING OR IRRITATED SKIN, or f) in preparations, other than insect baits, containing <=6%, calculated as Boric acid

Australian Industrial Chemicals Introduction Scheme (AICIS)

Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Water - 7732-18-5	Present	-
Aluminum sulfate - 10043-01-3	Present	-
Sulfuric acid, disilver(1+) salt - 10294-26-5	Present	-
Sulfamic acid - 5329-14-6	Present	-
Boric acid (H3BO3) - 10043-35-3	Present	-

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

Chemicals of Security Concern
This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

National pollutant inventory Not applicable

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

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

International Inventories

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	ISHL	IECSC	KECL
Water	X	X	231-791-2	-	X	X	-	X	X		X	KE-35400
Aluminum sulfate	X	X	233-135-0	-	X	X	-	X	X	X	X	KE-01042

Sulfuric acid, disilver(1+) salt	X	X	233-653-7	-	X	X	-	X	X	X	X	KE-12273
Sulfamic acid	X	X	226-218-8	-	X	X	-	X	X	X	X	KE-32336
Boric acid (H3BO3)	X	X	233-139-2	-	X	X	-	X	X	X	X	KE-03499

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

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

Basel convention on the control of transboundary movements of hazardous wastes and their dispoal
Not applicable.

Component	CAS No	OECD HPV	Restriction of Hazardous Substances (RoHS)	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable
Aluminum sulfate	10043-01-3	Listed	Not applicable	Not applicable	Not applicable
Sulfuric acid, disilver(1+) salt	10294-26-5	Not applicable	Not applicable	Not applicable	Not applicable
Sulfamic acid	5329-14-6	Listed	Not applicable	Not applicable	Not applicable
Boric acid (H3BO3)	10043-35-3	Listed	Not applicable	Not applicable	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)
Sulfamic acid	-	Use restricted. See entry 75. (see link for restriction details)	-
Boric acid (H3BO3)	-	Use restricted. See entry 30. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	SVHC Candidate list - 233-139-2 - Toxic for reproduction, Article 57c

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

https://echa.europa.eu/authorisation-list
https://echa.europa.eu/candidate-list-table
https://echa.europa.eu/substances-restricted-under-reach

Section 16 - Other Information

Legend

AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
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
Predicted No Effect Concentration (PNEC)
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
ADG - Australian Code for the Transport of Dangerous Goods by Road and Rail
NZS 5433:2020 - Transport of Dangerous Goods on Land
OECD - Organisation for Economic Co-operation and Development
LD50 - Lethal Dose 50%
LC50 - Lethal Concentration 50%
EC50 - Effective Concentration 50%
ATE - Acute Toxicity Estimate
WEL - Workplace Exposure Limit
RPE - Respiratory Protective Equipment
DNEL - Derived No Effect Level
NOEC - No Observed Effect Concentration
POW - Partition coefficient Octanol:Water
BCF - Bioconcentration factor
vPvB - very Persistent, very Bioaccumulative
PBT - Persistent, Bioaccumulative, Toxic
VOC - (Volatile Organic Compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.

Revision Date	12-Mar-2025
Revision Summary	Update to GHS format.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

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