

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

Revision Date 17-Mar-2024 Revision Number 3

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: Antimony, plasma standard solution, Specpure®, Sb 1000µg/ml

Cat No. : 41682

Molecular Formula Sb in H2O/tartaric acid/tr. HN O3

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

Recommended Use Laboratory chemicals. Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company

Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific)

Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom

Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

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

ALFAA41682

Full text of Hazard Statements: see section 16

2.2. Label elements

None required

EUH210 - Safety data sheet available on request

2.3. Other hazards

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Water	7732-18-5	231-791-2	98.9	-
Nitric acid% [C ≤ 70 %]	7697-37-2	231-714-2	0.90	Ox. Liq. 3 (H272) Met. Corr. 1 (H290) Acute Tox. 3 (H331) Skin Corr. 1A (H314) Eye Dam. 1 (H318) (EUH071)
Tartaric acid	526-83-0		0.1	Eye Dam. 1 (H318)
Antimony	7440-36-0	EEC No. 231-146-5	0.1	-

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Nitric acid% [C ≤ 70 %]	Ox. Liq. 2 :: C>=99%	-	-
	Ox. Liq. 3 :: 65%<=C<99%		
	Acute Tox. 1 (inhal) :: C>=70%		
	Acute Tox. 3 (inhal) ::		
	70%>C>=26.5%		
	Acute Tox. 4 (inhal) ::		
	26.5%>C>=13.25%		
	Skin Corr. 1A :: C>=20%		
	Skin Corr. 1B :: 5%<=C<20%		
	Met. Corr. 1 :: C>=2%		
	EUH071 :: C>=20%		

Component	ECHA (RAC) ATE (Oral)	ECHA (RAC) ATE (Dermal)	ECHA (RAC) ATE (Inhalation)
Nitric acid% [C ≤ 70 %]	-	-	ATE = 2.65 mg/L (vapours)

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact

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

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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.

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

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

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

None reasonably foreseeable.

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

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

None reasonably foreseeable.

Hazardous Combustion Products

None under normal use conditions.

5.3. Advice for firefighters

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

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Sweep up and shovel into suitable containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

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.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Technical Rules for Hazardous Substances (TRGS) 510 Class 12 Storage Class (LGK) (Germany)

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
Nitric acid% [C ≤ 70 %]	STEL: 1 ppm 15 min	STEL: 1 ppm (15min)	STEL: 1 ppm 15 min
	STEL: 2.6 mg/m ³ 15 min	STEL: 2.6 mg/m ³ (15min)	STEL: 2.6 mg/m ³ 15 min
Antimony	STEL: 1.5 mg/m ³ 15 min		TWA: 0.5 mg/m ³ 8 hr.
·	TWA: 0.5 mg/m ³ 8 hr		STEL: 1.5 mg/m ³ 15 min

Biological limit values

List source(s):

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Antimony 7440-36-0 (0.1)				DNEL = 56.4mg/kg bw/day

	Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
7-	Antimony 440-36-0 (0.1)			DNEL = 0.263mg/m ³	

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See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Antimony	PNEC = 0.113mg/L	PNEC = 11.2mg/kg		PNEC = 2.55mg/L	PNEC = 37mg/kg
7440-36-0 (0.1)	sediment dw			soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Antimony 7440-36-0 (0.1)	PNEC = 0.0113mg/L	PNEC = 2.24mg/kg sediment dw			

8.2. Exposure controls

Engineering Measures

None under normal use conditions.

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection Protective gloves

Glove material Natural rubber Nitrile rubber Neoprene	Breakthrough time See manufacturers recommendations	Glove thickness	EU standard EN 374	Glove comments (minimum requirement)
PVC				

Skin and body protection Long sleeved clothing.

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.

Respiratory Protection No protective equipment is needed under normal use conditions.

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particle filter

Small scale/Laboratory use Maintain adequate ventilation

Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid

Appearance Clear

Odor
Odor No information available
No data available

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Flammability (liquid) No data available

Flammability (solid,gas) Not applicable Liquid

Explosion Limits No data available

Flash Point No information available Method - No information available

Autoignition TemperatureNo data availableDecomposition TemperatureNo data availablepHNo information availableViscosityNo data available

Water Solubility Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component log Pow Nitric acid ...% [C \leq 70 %] -2.3

Vapor Pressure No data available

Density / Specific Gravity1 g/cm3@ 20 °CBulk DensityNot applicableLiquidVapor DensityNo data available(Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

Molecular Formula Sb in H2O/tartaric acid/tr. HN O3

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous PolymerizationNo information available.Hazardous ReactionsNone under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None under normal use conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

(a) acute toxicity;

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

DermalNo data availableInhalationNo data available

Toxicology data for the components

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Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Nitric acid% [C ≤ 70 %]	-	-	LC50 = 2500 ppm. (Rat) 1h
Antimony	LD50 = 7 g/kg (Rat)	-	-

Component	ECHA (RAC) ATE (Oral)	ECHA (RAC) ATE (Dermal)	ECHA (RAC) ATE (Inhalation)
Nitric acid% [C ≤ 70 %]	-	-	ATE = 2.65 mg/L (vapours)

(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

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Component	EU	UK	Germany	IARC
Antimony			Cat. 2	

(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 No information available. delayed

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any

known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effectsContains 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	
Antimony	Cyprinodon variegatus: LC50 =			
	6.2-8.3 mg/L/96h			

12.2. Persistence and degradability

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Persistence

Miscible with water, Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)	
Nitric acid% [C ≤ 70 %]	-2.3	No data available	

12.4. Mobility in soil

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

12.5. Results of PBT and vPvB

assessment

No data available for assessment.

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects
Persistent Organic Pollutant

Ozone Depletion Potential

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused

Products

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to

ensure complete and accurate classification.

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

empty containers.

European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but

application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product

was used.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

ADR Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

IATA Not regulated

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14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

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

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Water	7732-18-5	231-791-2	ı	-	Х	X	KE-35400	Х	-
Nitric acid …% [C ≤ 70 %]	7697-37-2	231-714-2	-	-	Х	Х	KE-25911	Х	X
Tartaric acid	526-83-0	-	-	-	Х	X	-	Х	X
Antimony	7440-36-0	231-146-5	-	-	Х	Х	KE-01834	Х	-

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Water	7732-18-5	Х	ACTIVE	Х	-	Х	Х	Х
Nitric acid% [C ≤ 70 %]	7697-37-2	Х	ACTIVE	X	i	Х	Х	Х
Tartaric acid	526-83-0	-	-	X	ı	ı	1	-
Antimony	7440-36-0	Х	ACTIVE	Х	-	Х	Х	Х

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

Authorisation/Restrictions according to EU REACH

Component	CAS No	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)
Water	7732-18-5	-	-	- `
Nitric acid% [C ≤ 70 %]	7697-37-2	-	Use restricted. See item 75. (see link for restriction details)	-
Tartaric acid	526-83-0	-	-	-
Antimony	7440-36-0	-	Use restricted. See item 75. (see link for restriction details)	-

REACH links

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

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) -	Seveso III Directive (2012/18/EC) -
·		Qualifying Quantities for Major Accident	Qualifying Quantities for Safety Report
		Notification	Requirements

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Water	7732-18-5	Not applicable	Not applicable
Nitric acid% [C ≤ 70 %]	7697-37-2	Not applicable	Not applicable
Tartaric acid	526-83-0	Not applicable	Not applicable
Antimony	7440-36-0	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification

Water endangering class = non-hazardous to waters (self classification)

Component	Component Germany - Water Classification (AwSV) Germany - TA-Luft Cla	
Nitric acid% [C ≤ 70 %]	WGK1	
Antimony		Class III: 1 mg/m³ (Massenkonzentration)

Component	France - INRS (Tables of occupational diseases)
Antimony	Tableaux des maladies professionnelles (TMP) - RG 73

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Nitric acid% [C ≤ 70 %]	Prohibited and Restricted		
7697-37-2 (0.90)	Substances		

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H272 - May intensify fire; oxidizer

H290 - May be corrosive to metals

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H332 - Harmful if inhaled

H411 - Toxic to aquatic life with long lasting effects

EUH071 - Corrosive to the respiratory tract

Legend

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CAS - Chemical Abstracts Service TSCA - United States Toxic Substances Control Act Section 8(b)

Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic

Substances/EU List of Notified Chemical Substances

Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
NZIOC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit TWA - Time Weighted Average

ACGIH - American Conference of Governmental Industrial Hygienists IARC - International Agency for Research on Cancer

DNEL - Derived No Effect Level Predicted No Effect Concentration (PNEC)

RPE - Respiratory Protective Equipment LD50 - Lethal Dose 50% LC50 - Lethal Concentration 50% EC50 - Effective Concentration 50%

NOEC - No Observed Effect ConcentrationPOW - Partition coefficient Octanol:WaterPBT - Persistent, Bioaccumulative, ToxicvPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

IMO/IMDG - International Maritime Organization/International Maritime MARPOL - International Convention for the Prevention of Pollution from

Dangerous Goods Code
Ships
OECD - Organisation for Economic Co-operation and Development
ATE - Acute Toxicity Estimate

BCF - Bioconcentration factor

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

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.

Prepared By Health, Safety and Environmental Department

Revision Date 17-Mar-2024

Revision Summary New emergency telephone response service provider.

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

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