

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

Revision Date 29-Jul-2025 Revision Number 4

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

1.1. Product identifier

Product Description: Lead Antimony shot

Cat No. : 10224

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

GHS 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

Reproductive Toxicity Category 1A (H360FD)

Effects on or via lactation (H362)

Specific target organ toxicity - (repeated exposure)

Category 1 (H372)

Environmental hazards

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Chronic aquatic toxicity Category 1 (H410)

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H360FD - May damage fertility. May damage the unborn child

H362 - May cause harm to breast-fed children

H372 - Causes damage to organs through prolonged or repeated exposure

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements

P201 - Obtain special instructions before use

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P308 + P313 - IF exposed or concerned: Get medical advice/attention

Additional EU labelling

Restricted to professional users

2.3. Other hazards

Toxic to terrestrial vertebrates

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 %	GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Lead	7439-92-1	EEC No. 231-100-4	94.0	Repr. 1A (H360FD) STOT RE 1 (H372) Lact. (H362) Aquatic Chronic 1 (H410)
Antimony	7440-36-0	EEC No. 231-146-5	6.0	-

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Lead	-	M = 10'	-

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice If symptoms persist, call a physician.

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. If skin irritation persists,

call a physician.

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

symptoms occur.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if

symptoms occur.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

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

Not combustible. approved class D extinguishers.

Extinguishing media which must not be used for safety reasons

Water may be ineffective.

5.2. Special hazards arising from the substance or mixture

Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

lead oxides, Antimony oxide.

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

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

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

6.3. Methods and material for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on 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.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry place. Keep away from acids.

Technical Rules for Hazardous Substances (TRGS) 510 Class 6.1D 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): **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 **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

Component	The United Kingdom	European Union	Ireland
Lead	STEL: 0.45 mg/m ³ 15 min	TWA: 0.15 mg/m ³ (8h)	TWA: 0.15 mg/m ³ 8 hr.
	TWA: 0.15 mg/m ³ 8 hr		STEL: 0.45 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

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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 (6.0)				DNEL = 56.4mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Antimony 7440-36-0 (6.0)			DNEL = 0.263mg/m ³	

Predicted No Effect Concentration (PNEC)

See values below.

	Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
L			sediment		sewage treatment	
Γ	Lead	$PNEC = 2.4 \mu g/L$	PNEC = 186mg/kg		PNEC = 100µg/L	PNEC = 212mg/kg
	7439-92-1 (94.0)		sediment dw			soil dw
Γ	Antimony	PNEC = 0.113mg/L	PNEC = 11.2mg/kg		PNEC = 2.55mg/L	PNEC = 37mg/kg
	7440-36-0 (6.0)		sediment dw			soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Lead	PNEC = 3.3µg/L	PNEC = 168mg/kg		PNEC = 10.9 mg/kg	
7439-92-1 (94.0)		sediment dw		food	
Antimony	PNEC =	PNEC = 2.24mg/kg			
7440-36-0 (6.0)	0.0113mg/L	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 No special protective equipment required

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

Skin and body protection Long sleeved clothing.

Respiratory Protection No special protective equipment required.

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

> are exceeded or if irritation or other symptoms are experienced Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use No personal respiratory protective equipment normally required Use a NIOSH/MSHA or

European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if

irritation or other symptoms are experienced.

Recommended half mask:- Particle filtering: EN149:2001 When RPE is used a face piece Fit Test should be conducted

Prevent product from entering drains. Do not allow material to contaminate ground water **Environmental exposure controls**

system. Local authorities should be advised if significant spillages cannot be contained.

Solid

Solid

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Solid Shot

Appearance Grev Odor Odorless

Odor Threshold No data available Melting Point/Range No data available **Softening Point** No data available **Boiling Point/Range** No information available

Flammability (liquid) Not applicable

No information available Flammability (solid,gas)

Explosion Limits No data available

Flash Point No information available Method - No information available

No data available **Autoignition Temperature Decomposition Temperature** No data available рΗ No information available

Viscosity Not applicable

Water Solubility Insoluble in water Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

. 23 hPa @ 20 °C **Vapor Pressure Density / Specific Gravity** No data available **Bulk Density** No data available **Vapor Density** Not applicable

Solid

Particle characteristics No data available

9.2. Other information

Evaporation Rate Not applicable - Solid

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

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Hazardous Polymerization
Hazardous Reactions
No information available.
None under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

lead oxides. Antimony oxide.

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

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Antimony	LD50 = 7 g/kg (Rat)	-	-

(b) skin corrosion/irritation; No data available

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

(d) respiratory or skin sensitization;

Respiratory SkinNo data available

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

Component	EU	UK	Germany	IARC
Lead				Group 2A
Antimony			Cat. 2	

(g) reproductive toxicity; Category 1A

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; Category 1

Target Organs Central nervous system (CNS), Blood, Kidney.

(j) aspiration hazard; Not applicable

Solid

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 effects

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Lead	LC50: = 1.32 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 1.17 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 0.44 mg/L, 96h semi-static (Cyprinus carpio)	EC50: = 600 μg/L, 48h (water flea)	
Antimony	Cyprinodon variegatus: LC50 = 6.2-8.3 mg/L/96h		

Component	Microtox	M-Factor
Lead		M = 10'

12.2. Persistence and degradability Product contains heavy metals. Discharge into the environment must be avoided. Special

pre-treatment is necessary

Persistence Insoluble in water, May persist.

Degradability

Not relevant for inorganic substances.

Degradation in sewage

Contains substances known to be hazardous to the environment or not degradable in waste

treatment plant water treatment plants.

12.3. Bioaccumulative potential May have some potential to bioaccumulate; Product has a high potential to bioconcentrate

12.4. Mobility in soil Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water

solubility.

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

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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

Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in

accordance with local regulations.

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

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

application specific.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the

application for which the product was used. Do not empty into drains. Do not let this

chemical enter the environment.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN3077

14.2. UN proper shipping name Environmentally hazardous substances, solid, n.o.s.

Technical Shipping Name (Lead shot)

14.3. Transport hazard class(es) Ш

14.4. Packing group

ADR

UN3077 14.1. UN number

14.2. UN proper shipping name Environmentally hazardous substances, solid, n.o.s.

Technical Shipping Name (Lead shot)

14.3. Transport hazard class(es) 14.4. Packing group Ш

IATA

14.1. UN number UN3077

Environmentally hazardous substances, solid, n.o.s. 14.2. UN proper shipping name

Technical Shipping Name (Lead shot)

14.3. Transport hazard class(es) 14.4. Packing group Ш

14.5. Environmental hazards Dangerous for the environment

Product is a marine pollutant according to the criteria set by IMDG/IMO

14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk Not applicable, packaged goods according to IMO instruments

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
Lead	7439-92-1	231-100-4	-	-	Х	X	KE-21887	Х	-
Antimony	7440-36-0	231-146-5	-	-	Х	X	KE-01834	X	-

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Lead	7439-92-1	X	ACTIVE	X	Ī	X	Х	Х
Antimony	7440-36-0	Х	ACTIVE	X	-	X	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) -	REACH (1907/2006) - Annex XVII - Restrictions	REACH Regulation (EC
		Subject to Authorization		1907/2006) article 59 - Candidate List of
		Subject to Authorization	Substances	
			Substances	Substances of Very High
Land	7400 00 4		11	Concern (SVHC)
Lead	7439-92-1	-	Use restricted. See entry	SVHC Candidate list -
			72.	231-100-4 - Toxic for
			(see link for restriction	reproduction (Article 57c)
			details)	
			Use restricted. See entry	
			30.	
			(see link for restriction	
			` details)	
			Use restricted. See entry	
			63.	
			(see link for restriction	
			details)	
			Use restricted. See entry	
			75.	
			(see link for restriction	
			details)	
Antimony	7440-36-0	-	Use restricted. See entry	-
			75.	
			(see link for restriction	
			details)	

REACH links

https://echa.europa.eu/authorisation-list

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

https://echa.europa.eu/candidate-list-table

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.

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
Lead	7439-92-1	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

Component	ANNEX I - PART 1 List of chemicals subject to export notification procedure (referred to in Article 8)	. , ,	ANNEX I - PART 3 List of chemicals subject to the PIC procedure (referred to in Articles 13 and 14)	
Lead 7439-92-1(94.0)	sr — severe restriction	-	-	

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012R0649&qid=1604065742303.

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

i(2) — industrial chemical for public

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

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

National Regulations

import of dangerous chemicals

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

WGK Classification

Water endangering class = 3 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Lead	nwg	Class II: 0.5 mg/m³ (Massenkonzentration)
Antimony		Class III: 1 mg/m³ (Massenkonzentration)

Component	France - INRS (Tables of occupational diseases)
Lead	Tableaux des maladies professionnelles (TMP) - RG 1
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	
Lead	Prohibited and Restricted			
7439-92-1 (94.0)	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

H360FD - May damage fertility. May damage the unborn child

H360Fd - May damage fertility. Suspected of damaging the unborn child

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H362 - May cause harm to breast-fed children

H372 - Causes damage to organs through prolonged or repeated exposure

H410 - Very toxic to aquatic life with long lasting effects

Legend

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

ENCS - Japanese Existing and New Chemical Substances AICS - Australian Inventory of 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

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% POW - Partition coefficient Octanol:Water vPvB - very Persistent, very Bioaccumulative

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

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

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

MARPOL - International Convention for the Prevention of Pollution from Shins

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ATE - Acute Toxicity Estimate 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.

Chemical incident response training.

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.

Prepared By Health, Safety and Environmental Department

Revision Date 29-Jul-2025

SDS sections updated. **Revision Summary**

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