

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

Revision Date 30-Nov-2024 Revision Number 4

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

1.1. Product identifier

Product Description: Multi-Element QC-7 Check Standard Solution, Specpure®

Cat No.: 39145

Molecular Formula Matrix: 5% HN O3 /tr. F-

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

Poison Centre - Emergency information services

n Centre - Emergency Ireland : National Poisons Information Centre (NPIC) -

01 809 2166 (8am-10pm, 7 days a week)

Malta: +356 2395 2000 Cyprus: +357 2240 5611

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

Substances/mixtures corrosive to metal Category 1 (H290)

Health hazards

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Skin Corrosion/Irritation Serious Eye Damage/Eye Irritation Category 1 B (H314) Category 1 (H318)

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Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H290 - May be corrosive to metals

H314 - Causes severe skin burns and eye damage

Precautionary Statements

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

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

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 %	GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Water	7732-18-5	231-791-2	94.90	-
Nitric acid …% [C ≤ 70 %]	7697-37-2	231-714-2	5.00	Ox. Liq. 3 (H272) Met. Corr. 1 (H290) Acute Tox. 3 (H331) Skin Corr. 1A (H314) Eye Dam. 1 (H318) (EUH071)
Hydrogen fluoride	7664-39-3	EEC No. 231-634-8	0.10	Met. Corr. 1 (H290) Acute Tox. 2 (H300) Acute Tox. 1 (H310) Acute Tox. 2 (H330) Skin Corr. 1A (H314)

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	Eye Dam. 1 (H318)
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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%		
Hydrogen fluoride	Skin Corr. 1A :: C>=7%	-	-
	Skin Corr. 1B :: 1%<=C<7%		
	Eye Irrit. 2 :: 0.1%<=C<1%		

Note

Contains

K 1000 ug/ml, Na 100 ug/ml, Ba 100 ug/ml, Al 100 ug/ml, Ag 100 ug/ml, Si 50 ug/ml

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

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

Eye ContactRinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Immediate medical attention is required.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Remove and wash

contaminated clothing and gloves, including the inside, before re-use. Call a physician

immediately.

Ingestion Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an

unconscious person. Call a physician immediately.

Inhalation If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use

mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory

medical device. Call a physician immediately.

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

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

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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. CO₂, dry chemical, dry sand, 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

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

Hazardous Combustion Products

Nitrogen oxides (NOx), Hydrogen fluoride, Metal oxides.

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. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. 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. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do

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not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before

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

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place.

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

Class 8B

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
Hydrogen fluoride	STEL: 3 ppm 15 min	TWA: 1.8 ppm (8h)	TWA: 1.5 mg/m ³ 8 hr.
	STEL: 2.5 mg/m ³ 15 min	TWA: 1.5 mg/m ³ (8h)	TWA: 1.8 ppm 8 hr. F
	TWA: 1.8 ppm 8 hr	STEL: 3 ppm (15min)	STEL: 2.5 mg/m ³ 15 min
	TWA: 1.5 mg/m ³ 8 hr	STEL: 2.5 mg/m ³ (15min)	STEL: 3 ppm 15 min
			Skin

Biological limit values

List source(s):

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

See table for values

Component	Acute effects local (Oral)	Acute effects systemic (Oral)	Chronic effects local (Oral)	Chronic effects systemic (Oral)
Hydrogen fluoride 7664-39-3 (0.10)		0.01 mg/kg/ bw/day		0.01 mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Hydrogen fluoride 7664-39-3 (0.10)	DNEL = 2.5mg/m ³	DNEL = 2.5mg/m ³	DNEL = $1.5\mu g/m^3$	DNEL = 1.5mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

ſ	Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
L			sediment		sewage treatment	
	Hydrogen fluoride	PNEC = 0.9mg/L			PNEC = 51mg/L	PNEC = 11mg/kg

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7664-39-3 (0.10)					soil dw
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Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Hydrogen fluoride 7664-39-3 (0.10)	PNEC = 0.9mg/L				

8.2. Exposure controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber Nitrile rubber Neoprene	See manufacturers recommendations	-	EN 374	(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 When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used

and maintained properly

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: Particulates filter conforming to EN 143

Small scale/Laboratory use 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

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 Colorless

Odor No information available

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Odor Threshold
Melting Point/Range
Softening Point
Boiling Point/Range
Flammability (liquid)
No data available
No data available
No information available
No data available

Flammability (solid,gas) Not applicable Liquid

Explosion Limits No data available

Flash Point No information available Method - No information available

Autoignition Temperature No data available
Decomposition Temperature No data available

pH

Viscosity No data available

Water Solubility Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Componentlog PowNitric acid ...% [C \leq 70 %]-2.3Hydrogen fluoride-1.4

Vapor PressureNo data availableDensity / Specific GravityNo data available

Bulk DensityNot applicableLiquidVapor DensityNo data available(Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

Molecular Formula Matrix: 5% HN O3 /tr. F-

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

Strong bases.

10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Hydrogen fluoride. Metal oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

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(a) acute toxicity;

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

No data available **Dermal** No data available Inhalation

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Nitric acid% [C ≤ 70 %]	-	-	LC50 = 2500 ppm. (Rat) 1h
Hydrogen fluoride	-	-	LC50 = 0.79 mg/L (Rat) 1 h

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; Category 1 B

Category 1 (c) serious eye damage/irritation;

(d) respiratory or skin sensitization;

No data available Respiratory 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

No data available (g) reproductive toxicity;

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

No information available. **Target Organs**

No data available (j) aspiration hazard;

delayed

Symptoms / effects,both acute and Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes

severe swelling, severe damage to the delicate tissue and danger of perforation.

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 May cause long-term adverse effects in the environment. Do not allow material to

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contaminate ground water system.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Hydrogen fluoride	LC50 = 660 mg/L, 48h (Leuciscus idus)	EC50 = 270 mg/L, 48h (Daphnia species)	

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

pre-treatment is necessary

Persistence

based on information available, May persist.

Degradation in sewage treatment plant

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

water treatment plants.

12.3. Bioaccumulative potential

May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)
Nitric acid% [C ≤ 70 %]	-2.3	No data available
Hydrogen fluoride	-1.4	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

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.

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

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. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH

and harm aquatic organisms.

SECTION 14: TRANSPORT INFORMATION

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IMDG/IMO

14.1. UN number UN3264

<u>14.2. UN proper shipping name</u>
Technical Shipping Name
Corrosive liquid, acidic, inorganic, n.o.s. (NITRIC ACID, Hydrofluoric acid)

14.3. Transport hazard class(es) 8 14.4. Packing group III

ADR

14.1. UN number UN3264

14.2. UN proper shipping name
Technical Shipping Name
(NITRIC ACID, Hydrofluoric acid)

14.3. Transport hazard class(es) 8 14.4. Packing group 8

<u>IATA</u>

14.1. UN number UN3264

14.2. UN proper shipping name
Technical Shipping Name
(NITRIC ACID, Hydrofluoric acid)

14.3. Transport hazard class(es) 8 14.4. Packing group 8

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	-	-	Х	X	KE-35400	X	-
Nitric acid% [C ≤ 70 %]	7697-37-2	231-714-2	-	-	Х	Χ	KE-25911	X	X
Hydrogen fluoride	7664-39-3	231-634-8	-	-	Х	Х	KE-20198	Х	Х

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Water	7732-18-5	Х	ACTIVE	Х	-	X	Х	Х
Nitric acid% [C ≤ 70 %]	7697-37-2	Х	ACTIVE	Х	-	X	Х	Х
Hydrogen fluoride	7664-39-3	X	ACTIVE	Х	ı	X	Х	X

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) -	REACH Regulation (EC
-		Annex XIV - Substances	Annex XVII - Restrictions	1907/2006) article 59 -

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Candidate List of **Subject to Authorization** on Certain Dangerous **Substances of Very High** Substances Concern (SVHC) Water 7732-18-5 7697-37-2 Nitric acid ...% [C ≤ 70 %] Use restricted. See entry 75. (see link for restriction details) Hydrogen fluoride 7664-39-3 Use restricted. See entry 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) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Water	7732-18-5	Not applicable	Not applicable
Nitric acid% [C ≤ 70 %]	7697-37-2	Not applicable	Not applicable
Hydrogen fluoride	7664-39-3	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 = 1 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Nitric acid% [C ≤ 70 %]	WGK1	
Hydrogen fluoride	WGK2	

Component	France - INRS (Tables of occupational diseases)
Hydrogen fluoride	Tableaux des maladies professionnelles (TMP) - RG 32

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		

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7697-37-2 (5.00)	Substances	
Hydrogen fluoride	Prohibited and Restricted	
7664-39-3 (0.10)	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

H290 - May be corrosive to metals

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H272 - May intensify fire; oxidizer

H300 - Fatal if swallowed

H310 - Fatal in contact with skin

H330 - Fatal if inhaled

EUH071 - Corrosive to the respiratory tract

Legend

Substances List

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

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

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

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

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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

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

NZIoC - New Zealand Inventory of Chemicals

Predicted No Effect Concentration (PNEC)

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

IARC - International Agency for Research on Cancer

MARPOL - International Convention for the Prevention of Pollution from

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Ships

ATE - Acute Toxicity Estimate

TWA - Time Weighted Average

EC50 - Effective Concentration 50%

LD50 - Lethal Dose 50%

VOC - (Volatile Organic Compound)

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

Physical hazards

Health Hazards

Environmental hazards

On basis of test data
Calculation method
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.

Prepared By Health, Safety and Environmental Department

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Revision Date 30-Nov-2024 Revision Summary Not applicable.

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

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