

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

1.1. Product identifier

Product Description: Aqueous dispersant for multi-walled carbon nanotubes
Cat No. : 44276

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
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

Based on available data, the classification criteria are not met

Health hazards

Serious Eye Damage/Eye Irritation

Category 2 (H319)

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Environmental hazards

Acute aquatic toxicity
Chronic aquatic toxicity

Category 1 (H400)
Category 1 (H410)

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Warning

Hazard Statements

H319 - Causes serious eye irritation
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements

P264 - Wash face, hands and any exposed skin thoroughly after handling
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
P337 + P313 - If eye irritation persists: Get medical advice/attention

2.3. Other hazards

Included in the list established in accordance with Article 59(1) for having endocrine disrupting properties
Contains a known or suspected endocrine disruptor
Contains a substance on the National Authorities Endocrine Disruptor Lists
Toxic to terrestrial vertebrates

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
Polyethylene glycol branched nonylphenyl ether	68412-54-4	500-209-1	50.00	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Water	7732-18-5	231-791-2	39.50	-
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-	126-86-3	EEC No. 204-809-1	10.00	Eye Irrit. 2 (H319) Aquatic Chronic 3 (H412)
2-Butoxyethanol	111-76-2	EEC No. 203-905-0	0.50	Acute Tox. 4 (H302) Acute Tox. 3 (H331) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)

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Component	ECHA (RAC) ATE (Oral)	ECHA (RAC) ATE (Dermal)	ECHA (RAC) ATE (Inhalation)
2-Butoxyethanol	ATE = 1200 mg/kg bw	-	ATE = 3 mg/L (vapour)

ECHA (RAC) - Committee for Risk Assessment - European CHemicals Agency
ATE - Acute Toxicity Estimate; mg/kg bw - milligrams per kilogram of body weight

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.
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.
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SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Carbon dioxide (CO₂). Powder. Water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Extinguishing media which must not be used for safety reasons

No information available.

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

Carbon oxides.

5.3. Advice for firefighters

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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

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.

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. Ensure adequate ventilation. Do not get in eyes, on skin, or on 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

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Component	The United Kingdom	European Union	Ireland
2-Butoxyethanol	STEL: 50 ppm 15 min STEL: 246 mg/m ³ 15 min TWA: 25 ppm 8 hr TWA: 123 mg/m ³ 8 hr Skin	TWA: 20 ppm (8h) TWA: 98 mg/m ³ (8h) STEL: 50 ppm (15min) STEL: 246 mg/m ³ (15min) Skin	TWA: 20 ppm 8 hr. TWA: 98 mg/m ³ 8 hr. STEL: 50 ppm 15 min STEL: 246 mg/m ³ 15 min Skin

Biological limit values

List source(s): **UK** - Biological Monitoring Guidance Values provided by the UK's Health and Safety Executive (HSE) Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended) and EH40/2005.

Component	United Kingdom	European Union
2-Butoxyethanol	Butoxyacetic acid: 240 mmol/mol creatinine urine post shift	

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)
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-126-86-3 (10.00)		DNEL = 1.5mg/kg bw/day		DNEL = 0.5mg/kg bw/day
2-Butoxyethanol 111-76-2 (0.50)		DNEL = 89mg/kg bw/day		DNEL = 125mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-126-86-3 (10.00)		DNEL = 5.28mg/m ³		DNEL = 1.76mg/m ³
2-Butoxyethanol 111-76-2 (0.50)	DNEL = 246mg/m ³	DNEL = 1091mg/m ³		DNEL = 98mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-126-86-3 (10.00)	PNEC = 0.04mg/L	PNEC = 0.32mg/kg sediment dw	PNEC = 0.4mg/L	PNEC = 7mg/L	PNEC = 0.028mg/kg soil dw
2-Butoxyethanol 111-76-2 (0.50)	PNEC = 8.8mg/L	PNEC = 34.6mg/kg sediment dw	PNEC = 26.4mg/L	PNEC = 463mg/L	PNEC = 2.33mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-126-86-3 (10.00)	PNEC = 0.004mg/L	PNEC = 0.032mg/kg sediment dw			
2-Butoxyethanol 111-76-2 (0.50)	PNEC = 0.88mg/L	PNEC = 3.46mg/kg sediment dw		PNEC = 0.02g/kg food	

8.2. Exposure controls

Engineering Measures

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

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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	See manufacturers	-	EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				
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: Multi-purpose/ABEK conforming to EN14387 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

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State

Liquid

Appearance

Odor

No information available

Odor Threshold

No data available

Melting Point/Range

No data available

Softening Point

No data available

Boiling Point/Range

No information available

Flammability (liquid)

No data available

Flammability (solid,gas)

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

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pH	No information available	
Viscosity	No data available	
Water Solubility	Immiscible	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
2-Butoxyethanol	0.81	
Vapor Pressure	23 hPa @ 20 °C	
Density / Specific Gravity	No data available	
Bulk Density	Not applicable	Liquid
Vapor Density	No data available	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

9.2. Other information

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

10.4. Conditions to avoid
Incompatible products. Excess heat.

10.5. Incompatible materials
Oxidizing agent.

10.6. Hazardous decomposition products
Carbon oxides.

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
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	-	-	-
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-	LD50 = 12900 mg/kg (Rat)	LD50 > 2000 mg/kg (Rat)	LC50 > 20 mg/L (Rat) 1 h
2-Butoxyethanol	1746 mg/kg (Rat)	LD50 > 2000 mg/kg (Guinea pig) OCED 402	LC50 = 486 ppm (Rat) 4 h LC50 = 450 ppm (Rat) 4 h

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2-Butoxyethanol	ATE = 1200 mg/kg bw	-	ATE = 3 mg/L (vapour)

ECHA (RAC) - Committee for Risk Assessment - European CHemicals Agency
ATE - Acute Toxicity Estimate; mg/kg bw - milligrams per kilogram of body weight

(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

Component	Test method	Test species	Study result
2-Butoxyethanol 111-76-2 (0.50)	Guinea Pig Maximisation Test (GPMT)	guinea pig	- non-sensitising

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available
Target Organs None known.

(j) aspiration hazard; No data available

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

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.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Polyethylene glycol branched nonylphenyl ether	LC50: = 0.323 mg/L, 96h flow-through (Pimephales)		

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	promelas)		
2-Butoxyethanol	1490 mg/L LC50 96 h 2950 mg/L LC50 96 h	1550 mg/l EC50 48 hr >1000 mg/L EC50 48 h 1698 - 1940 mg/L EC50 24 h	1840 mg/l EC50 72 hr

12.2. Persistence and degradability

Persistence Immiscible with water.

Component	Degradability
2-Butoxyethanol 111-76-2 (0.50)	90% (28d) OECD 301B

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)
2-Butoxyethanol	0.81	No data available

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
Assess endocrine disrupting properties for the environment

Substance identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Contains a substance on the National Authorities Endocrine Disruptor Lists.

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances
Polyethylene glycol branched nonylphenyl ether	Group III Chemical	

Component	EU National Authorities Endocrine Disruptor Lists - Environment	Japan - Endocrine Disruptor Information
Polyethylene glycol branched nonylphenyl ether 68412-54-4 (50.00)	List I	

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. Should not be released into the environment.

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

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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 UN3082
14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Shipping Name Polyethylene glycol branched nonylphenyl ether
14.3. Transport hazard class(es) 9
14.4. Packing group III

ADR

14.1. UN number UN3082
14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Shipping Name Polyethylene glycol branched nonylphenyl ether
14.3. Transport hazard class(es) 9
14.4. Packing group III

IATA

14.1. UN number UN3082
14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Shipping Name Polyethylene glycol branched nonylphenyl ether
14.3. Transport hazard class(es) 9
14.4. Packing group III

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 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

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

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Polyethylene glycol branched nonylphenyl ether	68412-54-4	-	-	500-209-1	X	X	KE-03587	X	X
Water	7732-18-5	231-791-2	-	-	X	X	KE-35400	X	-
5-Decyne-4,7-diol,	126-86-3	204-809-1	-	-	X	X	KE-33575	X	X

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2,4,7,9-tetramethyl- 2-Butoxyethanol	111-76-2	203-905-0	-	-	X	X	KE-04134	X	X
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Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Polyethylene glycol branched nonylphenyl ether	68412-54-4	X	ACTIVE	X	-	X	X	X
Water	7732-18-5	X	ACTIVE	X	-	X	X	X
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-	126-86-3	X	ACTIVE	X	-	X	X	X
2-Butoxyethanol	111-76-2	X	ACTIVE	X	-	X	X	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) - 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)
Polyethylene glycol branched nonylphenyl ether	68412-54-4	-	-	SVHC Candidate list - 500-209-1 - Endocrine disrupting properties, Article 57f - environment
Water	7732-18-5	-	-	-
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-	126-86-3	-	-	-
2-Butoxyethanol	111-76-2	-	Use restricted. See entry 75. (see link for restriction details)	-

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.

REACH links

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

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

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

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
Polyethylene glycol branched nonylphenyl ether	68412-54-4	Not applicable	Not applicable
Water	7732-18-5	Not applicable	Not applicable
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-	126-86-3	Not applicable	Not applicable
2-Butoxyethanol	111-76-2	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

Component	ANNEX I - PART 1 List of chemicals subject to export notification procedure (referred to in Article 8)	ANNEX I - PART 2 List of chemicals qualifying for PIC notification (referred to in Article 11)	ANNEX I - PART 3 List of chemicals subject to the PIC procedure (referred to in Articles 13 and 14)
Polyethylene glycol branched nonylphenyl ether 68412-54-4 (50.00)	p(1) — pesticide in the group of plant protection products b — ban (for the category or	i — industrial chemical b — ban (for the category or categories concerned)	-

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	<p>categories concerned)</p> <p>p(2) — other pesticide including biocides</p> <p>b — ban (for the category or categories concerned)</p> <p>i(1) — industrial chemical for professional use</p> <p>sr — severe restriction</p> <p>i(2) — industrial chemical for public</p> <p>sr — severe restriction</p>	<p>p — pesticides</p> <p>sr — severe restriction</p>	
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<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

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
5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-	WGK1	
2-Butoxyethanol	WGK1	

Component	France - INRS (Tables of occupational diseases)
2-Butoxyethanol	Tableaux des maladies professionnelles (TMP) - RG 84

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
Polyethylene glycol branched nonylphenyl ether 68412-54-4 (50.00)	Prohibited and Restricted Substances		
2-Butoxyethanol 111-76-2 (0.50)		Group I	

15.2. Chemical safety assessment

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

SECTION 16: OTHER INFORMATION

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

H319 - Causes serious eye irritation
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H302 - Harmful if swallowed
H315 - Causes skin irritation
H331 - Toxic if inhaled
H412 - Harmful to aquatic life with long lasting effects

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical 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

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of 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

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

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

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.

Chemical incident response training.

Prepared By

Health, Safety and Environmental Department

Revision Date

30-Nov-2024

Revision Summary

SDS sections updated.

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,

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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