

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

Creation Date 19-Apr-2012 Revision Date 09-Feb-2024 Revision Number 13

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

### 1.1. Product identifier

Product Description: <u>all-trans-Retinyl acetate, 1.5 million IU/g, in sunflower oil, stabilized</u>

Cat No.: 346320000; 346320025; 346321000; 346325000

**Synonyms** all-trans Vitamin A acetate

 CAS No
 127-47-9

 EC No
 204-844-2

 Molecular Formula
 C22 H32 O2

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

Recommended Use Laboratory chemicals.

Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC21 - Laboratory chemicals

**Process categories** PROC15 - Use as a laboratory reagent

Environmental release category ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Uses advised against No Information available

### 1.3. Details of the supplier of the safety data sheet

Company

UK entity/business name

Fisher Scientific UK Bishop Meadow Road,

Loughborough, Leicestershire LE11 5RG, United Kingdom

**EU entity/business name** Thermo Fisher Scientific

Janssen Pharmaceuticalaan 3a, 2440 Geel, Belgium

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** 

ACR34632

all-trans-Retinyl acetate, 1.5 million IU/g, in sunflower oil, stabilized

Revision Date 09-Feb-2024

Based on available data, the classification criteria are not met

**Health hazards** 

Reproductive Toxicity Category 1B (H360D)

**Environmental hazards** 

Chronic aquatic toxicity Category 2 (H411)

Full text of Hazard Statements: see section 16

### 2.2. Label elements



### Signal Word

### **Danger**

#### **Hazard Statements**

H360D - May damage the unborn child

H411 - 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

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

Contains a known or suspected endocrine disruptor

Contains a substance on the National Authorities Endocrine Disruptor Lists

### **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
2,6-Di-tert-butyl-p-cresol	128-37-0	EEC No. 204-881-4	1-3	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Sunflower oil	8001-21-6	EEC No. 232-273-9	42-46	-
Retinol, acetate	127-47-9	EEC No. 204-844-2	48-53	Repr. 1B (H360D) Aquatic chronic 4 (H413)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
2,6-Di-tert-butyl-p-cresol	-	1	-

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 Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In

the case of contact with eyes, rinse immediately with plenty of water and seek medical

advice.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately.

**Inhalation** Remove to fresh air. If not breathing, give artificial respiration. 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.

Immediate medical attention is required.

**Self-Protection of the First Aider** Use personal protective equipment as 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**

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

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

### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Organic acids.

### 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**

Revision Date 09-Feb-2024

all-trans-Retinyl acetate, 1.5 million IU/g, in sunflower oil, stabilized

### 6.1. Personal precautions, protective equipment and emergency procedures

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

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

#### 6.3. Methods and material for containment and cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material.

#### 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.

#### 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. To maintain product quality. Keep refrigerated.

Technical Rules for Hazardous Substances (TRGS) 510 Class 6.1C 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

Component	The United Kingdom	European Union	Ireland
2,6-Di-tert-butyl-p-cresol	STEL: 30 mg/m <sup>3</sup> 15 min		TWA: 2 mg/m <sup>3</sup> 8 hr.
	TWA: 10 mg/m <sup>3</sup> 8 hr		STEL: 6 mg/m3 15 min

#### **Biological limit values**

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

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

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
2,6-Di-tert-butyl-p-cresol 128-37-0 ( 1-3 )				DNEL = 0.5mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
2,6-Di-tert-butyl-p-cresol 128-37-0 ( 1-3 )				DNEL = 3.5mg/m <sup>3</sup>

### **Predicted No Effect Concentration (PNEC)**

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
2,6-Di-tert-butyl-p-cresol	$PNEC = 0.199 \mu g/L$	PNEC = 99.6µg/kg	PNEC = 1.99µg/L	PNEC = 0.17mg/L	$PNEC = 47.69 \mu g/kg$
128-37-0 ( 1-3 )	_	sediment dw	_	-	soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
2,6-Di-tert-butyl-p-cresol 128-37-0 ( 1-3 )	PNEC = 0.0199µg/L	PNEC = 9.96µg/kg sediment dw		PNEC = 8.33mg/kg food	

#### 8.2. Exposure controls

#### **Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location. Use only under a chemical fume hood. 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 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** 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: Organic gases and vapours filter Type A Brown conforming to

EN14387

Revision Date 09-Feb-2024

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:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN

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.

Liquid

### **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1. Information on basic physical and chemical properties

**Physical State** Liquid

Dark yellow **Appearance** Odor Slight

**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

No data available **Explosion Limits** 

> 100 °C / > 212 °F Flash Point Method - No information available

250 °C / 482 °F **Autoignition Temperature** No data available **Decomposition Temperature** No information available pН Viscosity No data available Water Solubility Difficult solubility Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

log Pow Component 2,6-Di-tert-butyl-p-cresol 5.1 Retinol, acetate 9.4

**Vapor Pressure** No data available **Density / Specific Gravity** No data available

Not applicable Liquid **Bulk Density Vapor Density** No data available (Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

Molecular Formula C22 H32 O2 **Molecular Weight** 328.49

### **SECTION 10: STABILITY AND REACTIVITY**

10.1. Reactivity None known, based on information available

10.2. Chemical stability

Stable under normal conditions. Light sensitive. Air sensitive.

#### 10.3. Possibility of hazardous reactions

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat. Exposure to air. Exposure to light.

Revision Date 09-Feb-2024

10.5. Incompatible materials

None known.

#### 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO2). Organic acids.

### SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information No acute toxicity information is available for this product

(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
2,6-Di-tert-butyl-p-cresol	> 6 g/kg ( Rat )	> 2 g/kg ( Rat )	<del>-</del>
Retinol, acetate	4980 mg/kg ( Rat )	-	-

(b) skin corrosion/irritation; No data available

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

(d) respiratory or skin sensitization;

**Respiratory Skin**No data available
No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Category 1B

**Teratogenicity** Teratogenic effects have occurred in experimental animals.

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

**Target Organs** No information available.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Other Adverse Effects The toxicological properties have not been fully investigated. Teratogenic effects have

occurred in experimental animals.

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

Contains a substance on the National Authorities Endocrine Disruptor Lists

Component	EU National Authorities Endocrine Disruptor Lists - Health
2,6-Di-tert-butyl-p-cresol 128-37-0 ( 1-3 )	List II

### **SECTION 12: ECOLOGICAL INFORMATION**

#### 12.1. Toxicity

**Ecotoxicity effects** 

The product contains following substances which are hazardous for the environment. Contains a substance which is:. Very toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae
2,6-Di-tert-butyl-p-cresol	LC50 = 0.199 mg/L 96h	EC50 >0.31 mg/L 48h	EC50 = 0.758 mg/L 96h
			EC50 = 6 mg/L 72 h
Retinol, acetate	LC50: = 1.37 mg/L, 96h (Oncorhynchus mykiss)		
	, , ,		

	Component	Microtox	M-Factor
I	2,6-Di-tert-butyl-p-cresol	EC50 = 7.82 mg/L 5 min	1
-		EC50 = 8.57 mg/L 15 min	
		EC50 = 8.98 mg/L 30 min	

### **12.2. Persistence and degradability** Not readily biodegradable

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 No information available

Component	log Pow	Bioconcentration factor (BCF)
2,6-Di-tert-butyl-p-cresol	5.1	230 - 2500 dimensionless
Retinol, acetate	9.4	No data available

### 12.4. Mobility in soil

### 12.5. Results of PBT and vPvB assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent

and very bioaccumulative (vPvB).

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**

all-trans-Retinyl acetate, 1.5 million IU/g, in sunflower oil, stabilized

13.1. Waste treatment methods

Waste from Residues/Unused

**Products** 

Waste is classified as hazardous. Dispose of in accordance with the European Directives

Revision Date 09-Feb-2024

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** 

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

application specific.

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

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

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

**Technical Shipping Name** Retinol, acetate ,2,6-Di-tert-butyl-p-cresol

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

ADR

14.1. UN number UN3082

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

**Technical Shipping Name** Retinol, acetate ,2,6-Di-tert-butyl-p-cresol

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

IATA

14.1. UN number UN3082

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

Retinol, acetate ,2,6-Di-tert-butyl-p-cresol **Technical Shipping Name** 

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

14.5. Environmental hazards Dangerous for the environment

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

No special precautions required. 14.6. Special precautions for user

Not applicable, packaged goods 14.7. Maritime transport in bulk 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)

Revision Date 09-Feb-2024

### all-trans-Retinyl acetate, 1.5 million IU/g, in sunflower oil, stabilized

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
2,6-Di-tert-butyl-p-cresol	128-37-0	204-881-4	-	-	X	X	KE-03079	X	X
Sunflower oil	8001-21-6	232-273-9	-	-	Х	Χ	KE-32696	-	-
Retinol, acetate	127-47-9	204-844-2	-	-	Х	X	KE-35393	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
2,6-Di-tert-butyl-p-cresol	128-37-0	X	ACTIVE	Х	-	Х	Х	X
Sunflower oil	8001-21-6	X	ACTIVE	Х	-	Х	Х	X
Retinol, acetate	127-47-9	X	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

Not applicable

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization		REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
2,6-Di-tert-butyl-p-cresol	128-37-0	-	-	-
Sunflower oil	8001-21-6	-	-	-
Retinol, acetate	127-47-9	-	-	-

### 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
2,6-Di-tert-butyl-p-cresol	128-37-0	Not applicable	Not applicable
Sunflower oil	8001-21-6	Not applicable	Not applicable
Retinol, acetate	127-47-9	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 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**

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

### **WGK Classification**

Water endangering class = 2 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
2,6-Di-tert-butyl-p-cresol	WGK 2	
Sunflower oil	awg	
Retinol, acetate	WGK2	

### 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

H360D - May damage the unborn child

H411 - Toxic to aquatic life with long lasting effects

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

#### Legend

Inventory

Substances List

**CAS** - Chemical Abstracts Service

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

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 Calculation method **Environmental hazards** 

**Training Advice** 

Chemical incident response training.

**Creation Date** 19-Apr-2012 **Revision Date** 09-Feb-2024 Not applicable. **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

**ENCS** - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

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

NZIoC - New Zealand Inventory of Chemicals

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

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)

# **End of Safety Data Sheet**