

according to Regulation (EC) No. 1907/2006

Creation Date 04-Oct-2010 Revision Date 26-Jan-2024 Revision Number 3

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

#### 1.1. Product identifier

Product Description: Copper foil
Cat No.: 96166

Index No 029-024-00-X
CAS No 7440-50-8
Molecular Formula Cu
REACH registration number -

#### 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

Thermo Fisher (Kandel) GmbH

Erlenbachweg 2, 76870 Kandel, Germany

Tel: +49 (0) 721 84007 280 Fax: +49 (0) 721 84007 300

**Swiss distributor -** Fisher Scientific AG Neuhofstrasse 11, CH 4153 Reinach

Tel: +41 (0) 56 618 41 11

https://www.fishersci.ch/ch/en/customer-help-

support/forms/email-us.html

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

customers in Switzerland:

Tox Info Suisse Emergency Number: 145 (24hr)

Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)

Chemtrec (24h) Toll-Free: 0800 564 402 Chemtrec Local: +41-43 508 20 11 (Zurich)

## **SECTION 2: HAZARDS IDENTIFICATION**

## 2.1. Classification of the substance or mixture

ALFAA96166

Copper foil Revision Date 26-Jan-2024

#### CLP Classification - Regulation (EC) No 1272/2008

#### **Physical hazards**

Based on available data, the classification criteria are not met

#### **Health hazards**

Based on available data, the classification criteria are not met

#### **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## 2.2. Label elements

None required

#### 2.3. Other hazards

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment

Toxic to terrestrial vertebrates

Toxicity to Soil Dwelling Organisms

This product does not contain any known or suspected endocrine disruptors

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

## 3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Copper	7440-50-8	EEC No. 231-159-6	<=100	-

REACH registration number	-

Full text of Hazard Statements: see section 16

## **SECTION 4: FIRST AID MEASURES**

## 4.1. Description of first aid measures

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

medical attention.

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

immediately if symptoms occur.

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

symptoms occur.

Copper foil Revision Date 26-Jan-2024

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

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

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

None reasonably foreseeable.

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

Notes to Physician Treat symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

#### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

#### 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. Keep product and empty container away from heat and sources of ignition.

#### **Hazardous Combustion Products**

Copper 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.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

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. Should not be released into the environment. Do not allow material to contaminate ground water system.

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

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

#### 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. Avoid contact with skin, eyes or clothing. Avoid

Copper foil Revision Date 26-Jan-2024

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 containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere.

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

Storage Class/LGK 13

**Switzerland - Storage of hazardous substances** 

Storage class - SC 11/13 https://www.kvu.ch/de/themen/stoffe-und-produkte https://www.kvu.ch/fr/themes/substances-et-produits https://www.kvu.ch/it/temi/sostanze-e-prodotti

#### 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, Forth edition. Published 2020. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

- The Government of Switzerland has set a directive on limit values for working materials (Grenzwerte am Arbeitsplatz) which is based on the Swiss Federal Regulation "Verordnung über die Verhütung von Unfällen und Berufskrankheiten". This directive is administered, periodically revised and enforced by SUVA (Swiss National Accident Insurance Fund).

Component	European Union	The United Kingdom	France	Belgium	Spain
Copper		STEL: 0.6 mg/m <sup>3</sup> 15 min	TWA / VME: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> 8 uren	TWA / VLA-ED: 0.01
		STEL: 2 mg/m <sup>3</sup> 15 min	(8 heures).	TWA: 1 mg/m <sup>3</sup> 8 uren	mg/m³ (8 horas)
		TWA: 1 mg/m <sup>3</sup> 8 hr	TWA / VME: 1 mg/m <sup>3</sup> (8	_	
		TWA: 0.2 mg/m <sup>3</sup> 8 hr	heures).		
			STEL / VLCT: 2 mg/m <sup>3</sup> .		

	Component	Italy	Germany	Portugal	The Netherlands	Finland
Ī	Copper		TWA: 0.01 mg/m <sup>3</sup> (8	TWA: 0.2 mg/m <sup>3</sup> 8 horas	TWA: 0.1 mg/m <sup>3</sup> 8 uren	TWA: 0.02 mg/m <sup>3</sup> 8
			Stunden). MAK	TWA: 1 mg/m <sup>3</sup> 8 horas	_	tunteina
-			Höhepunkt: 0.02 mg/m <sup>3</sup>	_		

Component	Austria	Denmark	Switzerland	Poland	Norway
Copper	MAK-KZGW: 4 mg/m <sup>3</sup>	TWA: 1.0 mg/m <sup>3</sup> 8 timer	STEL: 0.2 mg/m <sup>3</sup> 15	TWA: 0.2 mg/m <sup>3</sup> 8	TWA: 0.1 mg/m <sup>3</sup> 8 timer
	15 Minuten	TWA: 0.1 mg/m <sup>3</sup> 8 timer	Minuten	godzinach	TWA: 1 mg/m <sup>3</sup> 8 timer
	MAK-KZGW: 0.4 mg/m <sup>3</sup>	STEL: 2 mg/m <sup>3</sup> 15	TWA: 0.1 mg/m <sup>3</sup> 8	_	STEL: 3 mg/m <sup>3</sup> 15
	15 Minuten	minutter	Stunden		minutter. value
	MAK-TMW: 1 mg/m <sup>3</sup> 8	STEL: 0.2 mg/m <sup>3</sup> 15			calculated dust
	Stunden	minutter			STEL: 0.3 mg/m <sup>3</sup> 15
	MAK-TMW: 0.1 mg/m <sup>3</sup> 8				minutter. value
	Stunden				calculated fume

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Copper	TWA: 0.1 mg/m <sup>3</sup>	TWA-GVI: 0.2 mg/m <sup>3</sup> 8	TWA: 0.2 mg/m <sup>3</sup> 8 hr.		TWA: 1 mg/m <sup>3</sup> 8
	_	satima. Cu fume	Cu fume		hodinách. dust
		TWA-GVI: 1 mg/m <sup>3</sup> 8	TWA: 1 mg/m <sup>3</sup> 8 hr. Cu		TWA: 0.1 mg/m <sup>3</sup> 8
		satima. Cu dust	dusts and mists		hodinách. fume
		STEL-KGVI: 2 mg/m3 15	STEL: 2 mg/m <sup>3</sup> 15 min		Ceiling: 2 mg/m <sup>3</sup> dust
		minutama. dust Cu	STEL: 0.6 mg/m3 15 min		Ceiling: 0.2 mg/m <sup>3</sup>
			_		fume

Compo	nent	Estonia	Gibraltar	Greece	Hungary	Iceland
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Copper foil Revision Date 26-Jan-2024

recognizable dust fume		Copper	TWA: 1 mg/m <sup>3</sup> 8 tundides. total dust TWA: 0.2 mg/m <sup>3</sup> 8 tundides. respirable dust	STEL: 2 mg/m³ TWA: 0.2 mg/m TWA: 1 mg/m³		TWA: 1.0 mg/m³ 8 klukkustundum. total dust and powder TWA: 0.1 mg/m³ 8 klukkustundum. Cu respirable fraction, fume Ceiling: 2 mg/m³ total dust dust and powder Ceiling: 0.2 mg/m³ Cu respirable dust, fume
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Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Copper	STEL: 1 mg/m <sup>3</sup>	TWA: 1 mg/m³ inhalable			TWA: 0.5 mg/m <sup>3</sup> 8 ore
	TWA: 0.5 mg/m <sup>3</sup>	fraction IPRD			STEL: 0.2 mg/m <sup>3</sup> 15
		TWA: 0.2 mg/m <sup>3</sup>			minute
		respirable fraction IPRD			STEL: 1.5 mg/m <sup>3</sup> 15
					minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Copper	TWA: 0.5 mg/m <sup>3</sup> 1234 MAC: 1 mg/m <sup>3</sup>	TWA: 1 mg/m³ inhalable fraction TWA: 0.2 mg/m³		TLV: 0.01 mg/m <sup>3</sup> 8 timmar. NGV	
		respirable fraction			

## **Biological limit values**

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

## **Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

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

See table for values

Component	Acute effects local (Dermal)			Chronic effects systemic (Dermal)
Copper		DNEL = 273mg/kg		DNEL = 137mg/kg
7440-50-8 ( <=100 )		bw/day		bw/day

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

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Copper	PNEC = 7.8µg/L	PNEC = 87mg/kg		PNEC = 230µg/L	PNEC = 65mg/kg
7440-50-8 ( <=100 )		sediment dw			soil dw

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
Copper 7440-50-8 ( <=100 )	PNEC = 5.2µg/L	PNEC = 676mg/kg sediment dw			

#### 8.2. Exposure controls

**Engineering Measures** 

Copper foil Revision Date 26-Jan-2024

None under normal use conditions.

Personal protective equipment

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

**Hand Protection** Protective gloves

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

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Inspect gloves before use, observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) 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, gloves with care avoiding skin contamination.

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

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

are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particle filter

Small scale/Laboratory use Maintain adequate ventilation

**Environmental exposure controls** 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.

@ 760 mmHg

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

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

**Physical State** Solid

**Appearance** Brown Odorless Odor

No data available **Odor Threshold Melting Point/Range** 1083 °C / 1981.4 °F **Softening Point** No data available **Boiling Point/Range** 2595 °C / 4703 °F

Flammability (liquid) Not applicable Solid

Flammability (solid,gas) No information available

**Explosion Limits** No data available

**Flash Point** No information available Method - No information available

**Autoignition Temperature** No data available **Decomposition Temperature** No data available Not applicable pН Not applicable

Viscosity Solid

Water Solubility Insoluble

No information available Solubility in other solvents

Partition Coefficient (n-octanol/water)

**Vapor Pressure** No data available **Density / Specific Gravity** No data available **Bulk Density** No data available Not applicable **Vapor Density** 

Solid

Particle characteristics No data available

Copper foil Revision Date 26-Jan-2024

9.2. Other information

Molecular Formula Cu Molecular Weight 63.54

Evaporation Rate Not applicable - Solid

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

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

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. Avoid dust formation. Exposure to air.

10.5. Incompatible materials

Strong oxidizing agents. Acids.

10.6. Hazardous decomposition products

Copper oxides.

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

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Copper	-	-	LC50 > 5.11 mg/L (Rat) 4 h

(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

Revision Date 26-Jan-2024 Copper foil

(g) reproductive toxicity; No data available

No data available (h) STOT-single exposure;

No data available (i) STOT-repeated exposure;

No information available. **Target Organs** 

(j) aspiration hazard; Not applicable

Solid

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

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** 

Contains a substance which is:. Very toxic to aquatic organisms. The product contains following substances which are hazardous for the 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
Copper	LC50: = 1.25 mg/L, 96h static (Lepomis macrochirus) LC50: = 0.3 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 0.8 mg/L, 96h static (Cyprinus carpio) LC50: = 0.112 mg/L, 96h static (Cyprinus carpio) LC50: = 0.112 mg/L, 96h static (Cyprinus carpio) LC50: = 0.052 mg/L, 96h store (Poecilia reticulata) LC50: = 0.052 mg/L, 96h store (Pimephales promelas) LC50: < 0.3 mg/L, 96h static (Pimephales promelas) LC50: = 0.2 mg/L, 96h store (Pimephales promelas)	EC50: = 0.03 mg/L, 48h Static (Daphnia magna)	EC50: 0.031 - 0.054 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: 0.0426 - 0.0535 mg/L, 72h static (Pseudokirchneriella subcapitata)

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

pre-treatment is necessary

Insoluble in water, May persist. Persistence 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.

Copper foil Revision Date 26-Jan-2024

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

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not

require assessment.

12.6. Endocrine disrupting

properties

**Endocrine Disruptor Information** 

This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant Ozone Depletion Potential This product does not contain any known or suspected substance This product does not contain any known or suspected substance

## **SECTION 13: DISPOSAL CONSIDERATIONS**

13.1. Waste treatment methods

Waste from Residues/Unused

**Products** 

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

ensure complete and accurate classification.

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

empty containers.

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

application specific.

**Other Information** Do not flush to sewer.

Switzerland - Waste Ordinance Disposal should be in accordance with applicable regional, national and local laws and

regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance,

ADWO) SR 814.600

https://www.fedlex.admin.ch/eli/cc/2015/891/en

## **SECTION 14: TRANSPORT INFORMATION**

IMDG/IMO Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

ADR Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

IATA Not regulated

14.1. UN number

14.2. UN proper shipping name

Copper foil Revision Date 26-Jan-2024

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards No hazards identified

No special precautions required. 14.6. Special precautions for user

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**

Copper

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
Copper	7440-50-8	231-159-6	-	-	X	Х	KE-08896	X	-
Component	CAS No	TSCA	notific	nventory ation - Inactive	DSL	NDSL	AICS	NZIoC	PICCS

ACTIVE

Χ

X

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

Χ

#### Authorisation/Restrictions according to EU REACH Not applicable

7440-50-8

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)
Copper	7440-50-8	-	Use restricted. See item 75. (see link for restriction details)	-

#### 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
Copper	7440-50-8	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 .

Copper foil Revision Date 26-Jan-2024

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

**WGK Classification** See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Copper	WGK2	Class III: 1 mg/m³ (Massenkonzentration)

#### **Swiss Regulations**

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

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
Copper 7440-50-8 ( <=100 )	Prohibited and Restricted Substances		

#### 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## **SECTION 16: OTHER INFORMATION**

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

## 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 **IECSC** - Chinese Inventory of Existing Chemical Substances

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

vPvB - very Persistent, very Bioaccumulative

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% POW - Partition coefficient Octanol:Water

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

VOC - (volatile organic compound)

Ships ATE - Acute Toxicity Estimate

Key literature references and sources for data

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

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

## **Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Prepared By Health, Safety and Environmental Department

**Creation Date** 04-Oct-2010 **Revision Date** 26-Jan-2024 Copper foil

Revision Date 26-Jan-2024

**Revision Summary** 

New emergency telephone response service provider.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No. 1907/2006

For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).

#### **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**