

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

Creation Date 06-Sep-2010 Revision Date 18-Oct-2023 Revision Number 7

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

#### 1.1. Product identifier

Product Description: 8-Hydroxyquinoline

Cat No. : H/2500/48

 Synonyms
 Oxine; 8-Quinolinol

 Index No
 613-324-00-8

 CAS No
 148-24-3

 EC No
 205-711-1

 Molecular Formula
 C9 H7 N O

#### 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

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

Tel: 01509 231166

Chemtrec US: (800) 424-9300 Chemtrec EU: 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**

Based on available data, the classification criteria are not met

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**Health hazards** 

Acute oral toxicity
Serious Eye Damage/Eye Irritation
Skin Sensitization
Reproductive Toxicity
Category 1 (H317)
Category 1 (H317)
Category 1B (H360)

**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

**Danger** 

#### **Hazard Statements**

H301 - Toxic if swallowed

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H360 - May damage fertility or the unborn child

H410 - Very toxic to aquatic life with long lasting effects

#### **Precautionary Statements**

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

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

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

## 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)

Toxic to terrestrial vertebrates

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 - According to
				GB-CLP Regulations UK SI 2019/720 and

#### 8-Hydroxyquinoline

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				UK SI 2020/1567
8-Hydroxyquinoline	148-24-3	EEC No. 205-711-1	>95	Acute Tox. 3 (H301) Skin Sens. 1 (H317) Eye Dam. 1 (H318) Repr. 1B (H360) Aquatic Acute 1 (H400)
				Aquatic Chronic 1 (H410)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes	
8-Hydroxyquinoline	-	1 (acute) 1 (chronic)	-	

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 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 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 severe eye damage. May cause allergic skin reaction.

### 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.

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#### 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 monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx).

#### 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. Avoid dust formation. 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. 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

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. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). 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 not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

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

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Protect from light.

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

## 7.3. Specific end use(s)

Use in laboratories

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# **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### 8.1. Control parameters

#### **Exposure limits**

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

#### **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)

See table for values

Component	Component Acute effects local (Dermal)		Chronic effects local (Dermal)	Chronic effects systemic (Dermal)	
8-Hydroxyquinoline				DNEL = 0.933mg/kg	
148-24-3 (>95)				bw/day	

Component	Component Acute effects local (Inhalation)		Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)	
8-Hydroxyquinoline 148-24-3 ( >95 )				DNEL = 3.29mg/m <sup>3</sup>	

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

See values below.

Г	Component	Fresh water	Fresh water	<b>Water Intermittent</b>	Microorganisms in	Soil (Agriculture)	
			sediment		sewage treatment		
	8-Hydroxyquinoline	PNEC = $0.225\mu g/L$	PNEC = 0.855ng/kg	$PNEC = 2.25 \mu g/L$	PNEC = 0.2mg/L	PNEC = 39ng/kg	
	148-24-3 (>95)		sediment dw	-		soil dw	

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air	
8-Hydroxyquinoline 148-24-3 ( >95 )	PNEC = 22.5ng/L	PNEC = 85.5ng/kg sediment dw	PNEC = 0.225µg/L			

## 8.2. Exposure controls

#### **Engineering Measures**

Use only under a chemical fume hood. 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
Nitrile rubber	See manufacturers	-		(minimum requirement)

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Neoprene recommendations EN 374
Natural rubber
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** 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 Solid

Appearance White, Beige, Pale yellow Odor No information available Odor Threshold No data available

Melting Point/Range 72 - 74 °C / 161.6 - 165.2 °F

Softening Point No data available

Boiling Point/Range 267 °C / 512.6 °F @ 752 mmHg

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
No data available

**pH** No information available

Viscosity Not applicable Solid

Water Solubility Insoluble

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

**Component** log Pow 8-Hydroxyquinoline 0.26

Vapor Pressure4.7 hPa @ 100 °CDensity / Specific GravityNo data availableBulk DensityNo data available

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Vapor Density Not applicable Solid

Particle characteristics No data available

9.2. Other information

Molecular Formula C9 H7 N O Molecular Weight 145.16

Evaporation Rate Not applicable - Solid

# **SECTION 10: STABILITY AND REACTIVITY**

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Light sensitive.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

Incompatible products. Excess heat. Avoid dust formation. Exposure to light.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NOx).

## **SECTION 11: TOXICOLOGICAL INFORMATION**

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

#### **Product Information**

(a) acute toxicity;

Oral Category 3
Dermal No data available
Inhalation Not classified

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation		
8-Hydroxyquinoline	LD50 = 790 mg/kg (Rat)	LD50 > 10000 mg/kg (Rat)	LC50 > 1210 mg/m <sup>3</sup> (Rat) 6 h		

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available Skin Category 1

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May cause sensitization by skin contact

(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

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable

Solid

Other Adverse Effects

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**Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment. The product contains following substances which are hazardous for the

environment.

Component	Microtox	M-Factor
8-Hydroxyquinoline	EC50 = 2.3 mg/L 30 min	1 (acute)
		1 (chronic)

## 12.2. Persistence and degradability

Persistence Persistence is unlikely.

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

**treatment plant** water treatment plants.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
8-Hydroxyguinoline	0.26	No data available

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

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solubility.

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**

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

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** UN2811

14.2. UN proper shipping nameToxic solid, organic, n.o.s.Technical Shipping Name8-Hydroxyquinoline

14.3. Transport hazard class(es) 6.1 14.4. Packing group III

ADR

**14.1. UN number** UN2811

14.2. UN proper shipping nameToxic solid, organic, n.o.s.Technical Shipping Name8-Hydroxyquinoline

**14.3. Transport hazard class(es)** 6.1 **14.4. Packing group** III

<u>IATA</u>

**14.1. UN number** UN281

14.2. UN proper shipping nameToxic solid, organic, n.o.s.Technical Shipping Name8-Hydroxyquinoline

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14.3. Transport hazard class(es) 6.1 14.4. Packing group III

<u>14.5. Environmental hazards</u> Dangerous for the environment

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

NLP

IECSC

TCSI

KECL

ENCS

ISHL

14.6. Special precautions for user No special precautions required.

CAS No

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**

Component

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)

EINECS ELINCS

8-Hydroxyquinoline	148-24-3	205-711-1	-	-	Х	Χ	KE-30043	Χ	Х
Component	CAS No	TSCA	notific	ventory ation - Inactive	DSL	NDSL	AICS	NZIoC	PICCS
8-Hydroxyquinoline	148-24-3	X	ACT	IVE	Х	-	X	X	Х

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

## Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - 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)
8-Hydroxyquinoline	148-24-3	-	Use restricted. See item 30. (see link for restriction details) Use restricted. See item 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	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report
		Notification	Requirements
8-Hydroxyquinoline	148-24-3	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

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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

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 = 3 (self classification)

#### 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

H301 - Toxic if swallowed

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H360 - May damage fertility or the unborn child

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

## Legend

**CAS** - Chemical Abstracts Service

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

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

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

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)

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#### 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.

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.

Creation Date06-Sep-2010Revision Date18-Oct-2023Revision SummaryNot 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**