

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

1.1. Product identifier

Product Description: Cyclohexyl isocyanate
Cat No. : 111310000; 111310025; 111310050; 111315000
CAS No 3173-53-3
Molecular Formula C7 H11 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 Pharmaceuticaaan 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

Flammable liquids Category 3 (H226)

Health hazards

Acute oral toxicity Category 4 (H302)
Acute dermal toxicity Category 4 (H312)

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

Acute Inhalation Toxicity - Vapors
Skin Corrosion/Irritation
Serious Eye Damage/Eye Irritation
Respiratory Sensitization
Skin Sensitization

Category 1 (H330)
Category 1 B (H314)
Category 1 (H318)
Category 1 (H334)
Category 1 (H317)

Environmental hazards

Acute aquatic toxicity
Chronic aquatic toxicity

Category 1 (H400)
Category 3 (H412)

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H226 - Flammable liquid and vapor
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317 - May cause an allergic skin reaction
H330 - Fatal if inhaled
H314 - Causes severe skin burns and eye damage
H400 - Very toxic to aquatic life
H412 - Harmful to aquatic life with long lasting effects
H302 + H312 - Harmful if swallowed or in contact with skin

Precautionary Statements

P280 - Wear protective gloves/protective clothing/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
P307 + P311 - IF exposed: Call a POISON CENTER or doctor/physician
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P273 - Avoid release to the environment

2.3. Other hazards

Lachrymator (substance which increases the flow of tears)
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
-----------	--------	-------	----------	-----------------------------------

ACR11131

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

				GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Isocyanates (no further defined)	NA		<2	Skin Corr. 1B (H314) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Acute Tox. 3 (H301) Acute Tox. 2 (H330) Aquatic Chronic 2 (H411)
o-Dichlorobenzene	95-50-1	EEC No. 202-425-9	<1	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Cyclohexyl isocyanate	3173-53-3	EEC No. 221-639-3	98	Skin Corr. 1C (H314) Resp. Sens. 1 (H334) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 1 (H330) Aquatic Acute 1 (H400) Flam Liq. 3 (H226)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
o-Dichlorobenzene	-	1	-

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. Immediate medical attention is required.
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. Immediate medical attention is required. 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. If not breathing, give artificial respiration.
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

Difficulty in breathing. Causes burns by all exposure routes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

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

Carbon dioxide (CO₂). Dry chemical. Water mist may be used to cool closed containers. Chemical foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂), Hydrogen cyanide (hydrocyanic acid).

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

Remove all sources of ignition. Take precautionary measures against static discharges.

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 (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Provide adequate ventilation.

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

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Avoid breathing

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

dust/fume/gas/mist/vapors/spray. Remove all sources of ignition. Take precautionary measures against static discharges. Keep away from open flames, hot surfaces and sources of ignition.

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

Flammables area. Corrosives area. Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Keep containers tightly closed in a dry, cool and well-ventilated place.

Technical Rules for Hazardous Substances (TRGS) 510 Class 3
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

Component	The United Kingdom	European Union	Ireland
o-Dichlorobenzene	STEL: 50 ppm 15 min STEL: 306 mg/m ³ 15 min TWA: 25 ppm 8 hr TWA: 153 mg/m ³ 8 hr Skin	TWA: 20 ppm (8h) TWA: 122 mg/m ³ (8h) STEL: 50 ppm (15min) STEL: 306 mg/m ³ (15min) Skin	TWA: 20 ppm 8 hr. TWA: 122 mg/m ³ 8 hr. STEL: 50 ppm 15 min STEL: 306 mg/m ³ 15 min Skin
Cyclohexyl isocyanate	STEL: 0.07 mg/m ³ 15 min TWA: 0.02 mg/m ³ 8 hr Resp. Sens.		

Biological limit values

List source(s):

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)
o-Dichlorobenzene 95-50-1 (<1)		DNEL = 6mg/kg bw/day		DNEL = 1.2mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
o-Dichlorobenzene 95-50-1 (<1)		DNEL = 21mg/m ³		DNEL = 4.2mg/m ³

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
o-Dichlorobenzene 95-50-1 (<1)	PNEC = 0.0037mg/L	PNEC = 0.177mg/kg sediment dw		PNEC = 4.7mg/L	PNEC = 0.0333mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
o-Dichlorobenzene 95-50-1 (<1)	PNEC = 0.00037mg/L	PNEC = 0.0177mg/kg sediment dw		PNEC = 5.56mg/kg food	

8.2. Exposure controls

Engineering Measures

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. 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	-	EN 374	(minimum requirement)
Neoprene	recommendations			
Natural rubber				
PVC				

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

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 compatibility, 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

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 141
When RPE is used a face piece Fit Test should be conducted

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

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	Clear	
Odor	No information available	
Odor Threshold	No data available	
Melting Point/Range	-80 °C / -112 °F	
Softening Point	No data available	
Boiling Point/Range	168 - 170 °C / 334.4 - 338 °F	@ 760 mmHg
Flammability (liquid)	Flammable	On basis of test data
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Flash Point	53 °C / 127.4 °F	Method - No information available
Autoignition Temperature	390 °C / 734 °F	
Decomposition Temperature	No data available	
pH	No information available	
Viscosity	No data available	
Water Solubility	decomposes	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
o-Dichlorobenzene	3.433	
Vapor Pressure	2.2 mbar @ 20 °C	
Density / Specific Gravity	0.980	
Bulk Density	Not applicable	Liquid
Vapor Density	4.3	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

9.2. Other information

Molecular Formula	C7 H11 N O
Molecular Weight	125.17
Explosive Properties	explosive air/vapour mixtures possible

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity None known, based on information available

10.2. Chemical stability Moisture sensitive.

10.3. Possibility of hazardous reactions

Hazardous Polymerization No information available.
Hazardous Reactions No information available.

10.4. Conditions to avoid Keep away from open flames, hot surfaces and sources of ignition. Excess heat.

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

Incompatible products. Exposure to moist air or water.

10.5. Incompatible materials

Acids. Water. Strong oxidizing agents. Strong bases. Alcohols. Amines.

10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen cyanide (hydrocyanic acid).

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 4
Dermal Category 4
Inhalation Category 1

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
o-Dichlorobenzene	LD50 = 1516 mg/kg (Rat)	LD50 > 10 g/kg (Rabbit)	14,04 mg/L/4h (Rat)
Cyclohexyl isocyanate	LD50 = 560 mg/kg (Rat)	LD50 > 2000 mg/kg (Rabbit)	LC50 = 0.022 mg/L (Rat) 4 h

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory Category 1
Skin Category 1

Component	Test method	Test species	Study result
o-Dichlorobenzene 95-50-1 (<1)	OECD Test Guideline 429 Local Lymph Node Assay	mouse	Sensitizer

May cause sensitization by skin contact

(e) germ cell mutagenicity; No data available

Component	Test method	Test species	Study result
o-Dichlorobenzene 95-50-1 (<1)	OECD Test Guideline 476 Gene cell mutation	in vitro Animal germ cell	Positive
	OECD Test Guideline 471 Bacterial Reverse Mutation Test	in vitro Bacteria	negative
	OECD Test Guideline 473 Chromosomal aberration assay	in vitro Animal germ cell	negative
	OECD Test Guideline 474 Mouse micronucleus assay	in vivo Animal germ cell	negative

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

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

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

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.

Component	Freshwater Fish	Water Flea	Freshwater Algae
o-Dichlorobenzene	LC50: 4.8 - 6.6 mg/L, 96h static (Lepomis macrochirus) LC50: = 5.2 mg/L, 96h flow-through (Brachydanio rerio) LC50: 42.6 - 80.4 mg/L, 96h static (Pimephales promelas) LC50: 8.23 - 10.9 mg/L, 96h flow-through (Pimephales promelas) LC50: 1.44 - 1.73 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 5.8 mg/L, 96h static (Pimephales promelas)	EC50: = 0.74 mg/L, 48h Static (Daphnia magna)	EC50: = 91.6 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: 61.2 - 181 mg/L, 72h (Pseudokirchneriella subcapitata) EC50: = 2.2 mg/L, 96h static (Pseudokirchneriella subcapitata)

Component	Microtox	M-Factor
o-Dichlorobenzene	EC50 = 4.76 mg/L 5 min EC50 = 4.98 mg/L 15 min EC50 = 5.99 mg/L 30 min	1

12.2. Persistence and degradability

Persistence Expected to be biodegradable
Soluble in water, Persistence is unlikely, based on information available.

Component	Degradability
o-Dichlorobenzene	0 % (28d) OECD 301C

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

95-50-1 (<1)	
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 Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
o-Dichlorobenzene	3.433	90 - 260 dimensionless

12.4. Mobility in soil The product is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Endocrine disrupting properties
Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential 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.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

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. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Do not let this chemical enter the environment.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN2488
14.2. UN proper shipping name CYCLOHEXYL ISOCYANATE
Technical Shipping Name Cyclohexyl isocyanide
14.3. Transport hazard class(es) 6.1
Subsidiary Hazard Class 3
14.4. Packing group I

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

ADR

14.1. UN number	UN2488
14.2. UN proper shipping name	CYCLOHEXYL ISOCYANATE
Technical Shipping Name	Cyclohexyl isocyanide
14.3. Transport hazard class(es)	6.1
Subsidiary Hazard Class	3
14.4. Packing group	I

IATA

FORBIDDEN FOR IATA TRANSPORT

14.1. UN number	UN2488
14.2. UN proper shipping name	CYCLOHEXYL ISOCYANATE, FORBIDDEN FOR IATA TRANSPORT
Technical Shipping Name	Cyclohexyl isocyanide
14.3. Transport hazard class(es)	6.1
Subsidiary Hazard Class	3
14.4. Packing group	I

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

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
Isocyanates (no further defined)	NA	-	-	-	-	-	-	-	-
o-Dichlorobenzene	95-50-1	202-425-9	-	-	X	X	KE-10066	X	X
Cyclohexyl isocyanate	3173-53-3	221-639-3	-	-	X	X	KE-09246	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Isocyanates (no further defined)	NA	-	-	-	-	-	-	-
o-Dichlorobenzene	95-50-1	X	ACTIVE	X	-	X	X	X
Cyclohexyl isocyanate	3173-53-3	X	ACTIVE	-	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)
Isocyanates (no further defined)	NA	-	-	-
o-Dichlorobenzene	95-50-1	-	Use restricted. See item 75.	-

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

			(see link for restriction details)	
Cyclohexyl isocyanate	3173-53-3	-	-	-

REACH links

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

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Isocyanates (no further defined)	NA	Not applicable	Not applicable
o-Dichlorobenzene	95-50-1	Not applicable	Not applicable
Cyclohexyl isocyanate	3173-53-3	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

National Regulations

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

WGK Classification

See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
o-Dichlorobenzene	WGK2	
Cyclohexyl isocyanate	WGK2	

Component	France - INRS (Tables of occupational diseases)
o-Dichlorobenzene	Tableaux des maladies professionnelles (TMP) - RG 9

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
o-Dichlorobenzene 95-50-1 (<1)	Prohibited and Restricted Substances		

15.2. Chemical safety assessment

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

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

SECTION 16: OTHER INFORMATION

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

H226 - Flammable liquid and vapor
H301 - Toxic if swallowed
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H330 - Fatal if inhaled
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic 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

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)

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 incident response training.

Creation Date 24-Nov-2010

Revision Date 22-Sep-2023

Revision Summary Not applicable.

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the

SAFETY DATA SHEET

Cyclohexyl isocyanate

Revision Date 22-Sep-2023

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