

# N,N'-Dicyclohexylcarbodiimide (DCC)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830  
Date of issue: 1/24/2019 Version: 1.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	: Substance
Substance name	: N,N'-Dicyclohexylcarbodiimide (DCC)
Chemical name	: dicyclohexylcarbodiimide
EC Index-No.	: 615-019-00-5
EC-No.	: 208-704-1
CAS-No.	: 538-75-0
Product code	: 57041553
Formula	: C13H22N2
Product group	: Raw material

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

##### 1.2.1. Relevant identified uses

Main use category	: Laboratory use, Industrial use, Professional use
Industrial/Professional use spec	: For professional use only
Use of the substance/mixture	: For analytical purposes Scientific research and development Not for human consumption or veterinary purposes.

##### 1.2.2. Uses advised against

No additional information available

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

##### Supplier

Scafell Organics  
Lingfield Way  
Yarm Road Business Park  
DL1 4XX Darlington - UK  
T +44 (0) 1949 823777  
[info@scafellorganics.com](mailto:info@scafellorganics.com) - [www.scafellorganics.com](http://www.scafellorganics.com)

#### 1.4. Emergency telephone number

Emergency number : +44 7590 545705

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (dermal), Category 3	H311
Acute toxicity (oral), Category 4	H302
Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Full text of H statements : see section 16	

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS06

GHS05

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H302 - Harmful if swallowed.  
H311 - Toxic in contact with skin.  
H317 - May cause an allergic skin reaction.  
H318 - Causes serious eye damage.

Precautionary statements (CLP)

: P264 - Wash hands, forearms and face thoroughly after handling.  
P280 - Wear protective clothing, eye protection, face protection, protective gloves.  
P301+P312 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
N,N'-Dicyclohexylcarbodiimide (DCC)	(CAS-No.) 538-75-0 (EC-No.) 208-704-1 (EC Index-No.) 615-019-00-5	100

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: If possible show this sheet, if not available show packaging or label. Do not leave affected person unattended. Never give anything by mouth to an unconscious person.
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing difficulties persist : Get medical advice/attention.
First-aid measures after skin contact	: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Do not remove clothing if it sticks to the skin. Seek medical attention if burns develop. If irritation persists, consult a doctor.
First-aid measures after eye contact	: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth out with water. Do not induce vomiting. Do not give an unconscious person anything to drink. Get medical advice/attention.

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

Symptoms/effects	: May cause an allergic skin reaction. May cause sensitisation of susceptible persons.
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Headache. More severe symptoms are also possible.
Symptoms/effects after skin contact	: Toxic in contact with skin. May cause skin irritation. Redness, pain. More severe symptoms are also possible.
Symptoms/effects after eye contact	: Causes serious eye damage. redness, itching, tears. Blurred vision.
Symptoms/effects after ingestion	: Harmful if swallowed. Symptoms of ingestion include drowsiness, weakness, headache, dizziness, nausea, vomiting. More severe symptoms are also possible.

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

Get immediate medical advice/attention. Immediately call a POISON CENTER/doctor.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Carbon oxides (CO, CO <sub>2</sub> ). Nitrogen oxides.
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### 5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: seal off low-lying areas. Keep container tightly closed and away from heat, sparks and flame. Keep away from combustible materials.
Firefighting instructions	: Eliminate all ignition sources if safe to do so. Evacuate area. Use water spray or fog for cooling exposed containers. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Keep upwind. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Use self-contained breathing apparatus and chemically protective clothing. Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Warn all persons of toxic hazard.

## SECTION 6: Accidental release measures

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

General measures	: Isolate from fire, if possible, without unnecessary risk. No flames, no sparks. Eliminate all sources of ignition. Avoid dust formation.
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### 6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Evacuate unnecessary personnel. Mark out the contaminated area with signs and prevent access to unauthorized personnel. Do not touch or walk on the spilled product. Avoid contact with skin, eyes and clothing.
Measures in case of dust release	: Keep upwind. Ventilate the area thoroughly, especially low lying areas (basements, workpits etc). Avoid creating or spreading dust.

### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection. Use self-contained breathing apparatus and chemically protective clothing.
Emergency procedures	: Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

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

Methods for cleaning up	: On land, sweep or shovel into suitable containers. Shovel or sweep up and put in a closed container for disposal.
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### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Provide local exhaust or general room ventilation. Avoid creating or spreading dust.
Hygiene measures	: Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Always wash hands after handling the product. Do not eat, drink or smoke when using this product.

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

Technical measures	: Ensure adequate ventilation, especially in confined areas.
Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Heat sources, Direct sunlight. Keep container closed when not in use. Moisture sensitive. Store contents under inert gas.
Incompatible products	: Strong oxidizing agents.
Incompatible materials	: Direct sunlight. Heat sources. Moisture. Water, humidity. Sources of ignition.
Heat and ignition sources	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Storage area	: Store below 20 °C. Store in dry protected location to prevent any moisture contact.

### 7.3. Specific end use(s)

For analytical purposes. Scientific research and development. Not for human consumption or veterinary purposes.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

N,N'-Dicyclohexylcarbodiimide (DCC) (538-75-0)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	32.48 µg/kg bodyweight/day
Long-term - systemic effects, inhalation	211.6 µg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	17 µg/kg bodyweight/day
Long-term - systemic effects, inhalation	52.17 µg/m³
Long-term - systemic effects, dermal	17 µg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.007 µg/L
PNEC aqua (marine water)	0.007 µg/L
PNEC aqua (intermittent, freshwater)	0.07 µg/L
PNEC aqua (intermittent, marine water)	0.007 µg/L
PNEC (Sediment)	
PNEC sediment (freshwater)	5.914 mg/kg dwt
PNEC sediment (marine water)	0.59 µg/kg dw

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N,N'-Dicyclohexylcarbodiimide (DCC) (538-75-0)	
PNEC (Soil)	
PNEC soil	6.96 µg/kg dw
PNEC (Oral)	
PNEC oral (secondary poisoning)	3.33 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	100 µg/L

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure that there is a suitable ventilation system. Do not breathe dust. Avoid contact with eyes, skin and clothing. Handle in accordance with good industrial hygiene and safety procedures.

#### Personal protective equipment:

Avoid all unnecessary exposure.

Materials for protective clothing:					
Use chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection					
Hand protection:					
The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374. The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.11		EN 374
Eye protection:					
Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Face shield and eye protection. Use eye protection according to EN 166, designed to protect against powders and dusts.					
Type	Use	Characteristics	Standard		
Safety goggles, Face shield	Fine dust, Dust	tightly fitting safety goggles, With side shields	EN 166		
Skin and body protection:					
Emergency safety showers should be available in the immediate vicinity of any potential exposure. Keep suitable chemically resistant protective clothing readily available for emergency use					
Type	Standard				
Total impervious protective suits, gloves, and boots must be worn to prevent any contact with the product	EN ISO 13982				
Respiratory protection:					
Keep self contained breathing apparatus readily available for emergency use. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended					
Device	Filter type	Condition	Standard		
Respiratory protective device with a particle filter	Type P3	Dust protection	EN 143		

#### Environmental exposure controls:

Avoid release to the environment.

#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Crystalline powder. Low melt - can also appear as a lumpy solid.
Molecular mass	: 206.33 g/mol
Colour	: Off-white. Yellow.
Odour	: Perceptible odour.
Odour threshold	: No data available

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pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 34 - 35 °C lit
Freezing point	: No data available
Boiling point	: 122 - 124 °C at 8 hPa - lit
Flash point	: 113 °C closed cup
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: insoluble in water. Soluble in methanol. Dichloromethane. Chloroform. Tetrahydrofuran. Acetonitrile. Dimethylformamide.
Log Pow	: 6.83
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from sunlight. Protect from moisture. Water, humidity.

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

No hazardous decomposition products known at room temperature. Thermal decomposition generates : Carbon oxides (CO, CO<sub>2</sub>). Nitrogen oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Oral: Harmful if swallowed.
Acute toxicity (dermal)	: Dermal: Toxic in contact with skin.
Acute toxicity (inhalation)	: Not classified

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LD50 oral rat	400 mg/kg
LD50 dermal rat	71 mg/kg
LC50 inhalation rat (mg/l)	159 mg/m <sup>3</sup> 6 hr

Skin corrosion/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Causes serious eye damage.
Additional information	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met

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STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

### 12.2. Persistence and degradability

#### N,N'-Dicyclohexylcarbodiimide (DCC) (538-75-0)

Persistence and degradability	No data available.
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### 12.3. Bioaccumulative potential

#### N,N'-Dicyclohexylcarbodiimide (DCC) (538-75-0)

Log Pow	6.83
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### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

#### N,N'-Dicyclohexylcarbodiimide (DCC) (538-75-0)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Other adverse effects

Additional information : Avoid release to the environment.






## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment. Hazardous waste due to toxicity.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
2811	2811	2811	2811	2811
<b>14.2. UN proper shipping name</b>				
TOXIC SOLID, ORGANIC, N.O.S.	TOXIC SOLID, ORGANIC, N.O.S.	Toxic solid, organic, n.o.s.	TOXIC SOLID, ORGANIC, N.O.S.	TOXIC SOLID, ORGANIC, N.O.S.
<b>Transport document description</b>				
UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (N,N-Dicyclohexylcarbodiimide), 6.1, II, (D/E)	UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (N,N-Dicyclohexylcarbodiimide), 6.1, II	UN 2811 Toxic solid, organic, n.o.s. (N,N-Dicyclohexylcarbodiimide), 6.1, II	UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (N,N-Dicyclohexylcarbodiimide), 6.1, II	UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (N,N-Dicyclohexylcarbodiimide), 6.1, II
<b>14.3. Transport hazard class(es)</b>				
6.1	6.1	6.1	6.1	6.1
				

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### 14.4. Packing group

II

II

II

II

II

### 14.5. Environmental hazards

Dangerous for the environment : No

Dangerous for the environment : No  
Marine pollutant : No

Dangerous for the environment : No

Dangerous for the environment : No

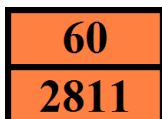
Dangerous for the environment : No

No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR) : T2  
Special provisions (ADR) : 274, 614  
Limited quantities (ADR) : 500g  
Excepted quantities (ADR) : E4  
Packing instructions (ADR) : P002, IBC08  
Special packing provisions (ADR) : B4  
Mixed packing provisions (ADR) : MP10  
Portable tank and bulk container instructions (ADR) : T3  
Portable tank and bulk container special provisions (ADR) : TP33  
Tank code (ADR) : SGAH, L4BH  
Tank special provisions (ADR) : TU15, TE19  
Vehicle for tank carriage : AT  
Transport category (ADR) : 2  
Special provisions for carriage - Packages (ADR) : V11  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28  
Special provisions for carriage - Operation (ADR) : S9, S19  
Hazard identification number (Kemler No.) : 60  
Orange plates :



Tunnel restriction code (ADR) : D/E  
EAC code : 2X

#### Transport by sea

Special provisions (IMDG) : 274  
Packing instructions (IMDG) : P002  
IBC packing instructions (IMDG) : IBC08  
IBC special provisions (IMDG) : B21, B4  
Tank instructions (IMDG) : T3  
Tank special provisions (IMDG) : TP33  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-A  
Stowage category (IMDG) : B  
Properties and observations (IMDG) : Toxic if swallowed, by skin contact or by inhalation.

#### Air transport

PCA Excepted quantities (IATA) : E4  
PCA Limited quantities (IATA) : Y644  
PCA limited quantity max net quantity (IATA) : 1kg  
PCA packing instructions (IATA) : 669  
PCA max net quantity (IATA) : 25kg  
CAO packing instructions (IATA) : 676  
CAO max net quantity (IATA) : 100kg  
Special provisions (IATA) : A3, A5  
ERG code (IATA) : 6L

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### Inland waterway transport

Classification code (ADN)	: T2
Special provisions (ADN)	: 274, 614, 802
Limited quantities (ADN)	: 500 g
Excepted quantities (ADN)	: E4
Equipment required (ADN)	: PP, EP
Number of blue cones/lights (ADN)	: 2

### Rail transport

Classification code (RID)	: T2
Special provisions (RID)	: 274, 614
Excepted quantities (RID)	: E4
Packing instructions (RID)	: P002, IBC08
Special packing provisions (RID)	: B4
Mixed packing provisions (RID)	: MP10
Portable tank and bulk container instructions (RID)	: T3
Portable tank and bulk container special provisions (RID)	: TP33
Tank codes for RID tanks (RID)	: SGAH, L4BH
Special provisions for RID tanks (RID)	: TU15
Transport category (RID)	: 2
Special provisions for carriage – Packages (RID)	: W11
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW28, CW31
Colis express (express parcels) (RID)	: CE9
Hazard identification number (RID)	: 60

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

N,N'-Dicyclohexylcarbodiimide (DCC) is not on the REACH Candidate List

N,N'-Dicyclohexylcarbodiimide (DCC) is not on the REACH Annex XIV List

Directive 2012/18/EU (SEVESO III)

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

## SECTION 16: Other information

Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Other information	: None.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Sens. 1	Skin sensitisation, Category 1
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.



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SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*