

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

Creation Date 20-Jul-2010

Revision Date 02-Feb-2024

Revision Number 4

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

1.1. Product identifier

Product Description:	Cyclopropylacetylene
Cat No. :	H53440
Synonyms	Cyclopropylacetylene
Index No	601-076-00-3
CAS No	6746-94-7
EC No	425-430-1
Molecular Formula	C5 H6
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

Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608

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 2 (H225)

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Health hazards

Skin Corrosion/Irritation Serious Eye Damage/Eye Irritation

Environmental hazards

Chronic aquatic toxicity

Category 2 (H315) Category 1 (H318)

Category 3 (H412)

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H225 - Highly flammable liquid and vapor

- H315 Causes skin irritation
- H318 Causes serious eye damage
- H412 Harmful to aquatic life with long lasting effects

Precautionary Statements

P280 - Wear 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

P310 - Immediately call a POISON CENTER or doctor/physician

P240 - Ground and bond container and receiving equipment

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- P273 Avoid release to the environment
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water

2.3. Other hazards

No information available

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 UK SI 2020/1567
Ethynylcyclopropane	6746-94-7	425-430-1	<=100	Flam. Liq. 2 (H225) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412)
Diethanolamine	111-42-2	EEC No. 203-868-0	<=0.5	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Repr. 2 (H361fd)

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STOT RE 2 (H373)

REACH registration number

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice	If symptoms persist, call a physician.	
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. If skin irritation persists, call a physician.	
Ingestion	Clean mouth with water and drink afterwards plenty of water.	
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.	
Self-Protection of the First Aider	Remove all sources of ignition. Use personal protective equipment as required.	
4.2. Most important symptoms and	effects, both acute and delayed	
	Causes severe eye damage. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting	
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. 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. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂).

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

Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment. Remove all sources of ignition.

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 ingestion and inhalation. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Hygiene Measures

When using do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Flammables area. Keep away from heat, sparks and flame. Keep container tightly closed in a dry and well-ventilated place. To maintain product quality: Store in freezer.

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

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

Component	The United Kingdom	European Union	Ireland
Diethanolamine			TWA: 0.2 ppm 8 hr.
			TWA: 1 mg/m ³ 8 hr.
			inhalable fraction and vapour
			STEL: 0.6 ppm 15 min
			STEL: 3 mg/m ³ 15 min
			Skin

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	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Ethynylcyclopropane 6746-94-7 (<=100)				DNEL = 6.667mg/kg bw/day
Diethanolamine 111-42-2 (<=0.5)				DNEL = 0.13mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Ethynylcyclopropane 6746-94-7 (<=100)				DNEL = 23.509mg/m ³
Diethanolamine 111-42-2 (<=0.5)			DNEL = 0.5mg/m ³	DNEL = 0.75mg/m ³

Predicted No Effect Concentration (PNEC)

No information available.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	,
Diethanolamine 111-42-2 (<=0.5)	PNEC = 0.021mg/L	PNEC = 0.092mg/kg	PNEC = 0.095mg/L	PNEC = 100mg/L	PNEC = 1.63mg/kg soil dw
111-42-2 (<=0.3)		sediment dw			Soli uw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Diethanolamine 111-42-2 (<=0.5)	PNEC = 0.002mg/L	PNEC = 0.0092mg/kg		PNEC = 1.04mg/kg food	
		sediment dw			

8.2. Exposure controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment.

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

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Inspect gloves before use.

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Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
Large scale/emergency use	Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to EN14387
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
Environmental exposure controls	Do not allow material to contaminate ground water system. Prevent product from entering drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid	
Appearance Odor Odor Threshold Melting Point/Range Softening Point Boiling Point/Range Flammability (liquid) Flammability (solid,gas) Explosion Limits	Clear pungent No data available No data available S1 - 52 °C / 123.8 - 125.6 °F Highly flammable Not applicable No data available	On basis of test data Liquid
Flash Point Autoignition Temperature Decomposition Temperature pH Viscosity Water Solubility Solubility in other solvents	-17 °C / 1.4 °F No data available No data available No information available No data available 3.96 g/l (20°C) No information available	Method - No information available
Partition Coefficient (n-octanol/wa Component Ethynylcyclopropane Diethanolamine Vapor Pressure Density / Specific Gravity Bulk Density Vapor Density Particle characteristics	ter) log Pow 1.355 -2.46 No data available 0.780 Not applicable No data available (liquid) Not applicable	Liquid (Air = 1.0)
9.2. Other information Molecular Formula Molecular Weight	C5 H6 66.1	

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Explosive Properties

Vapors may form explosive mixtures with air

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity_	Yes
10.2. Chemical stability	Stable under normal conditions.
10.3. Possibility of hazardous reaction	ons
Hazardous Polymerization Hazardous Reactions	Hazardous polymerization does not occur. None under normal processing.
10.4. Conditions to avoid	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
10.5. Incompatible materials	Strong oxidizing agents. Metals. Strong acids.

10.6. Hazardous decomposition products

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

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

Inhalation

Dermal

No data available Based on available data, the classification criteria are not met Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethynylcyclopropane	-	LD50 > 2000 mg/kg (Rat)	LC50 > 22.3 mg/L (Rat)4 h
Diethanolamine	LD50 = 780 mg/kg(Rat)	LD50 = 11.9 mL/kg(Rabbit)	-

(b) skin corrosion/irritation;Category 2(c) serious eye damage/irritation;Category 1(d) respiratory or skin sensitization;
Respiratory
SkinNo 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

Component	EU	UK	Germany	IARC
Diethanolamine				Group 2B

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(g) reproductive toxicity;	No data available)		
(h) STOT-single exposure;	No data available	9		
(i) STOT-repeated exposure;	No data available	9		
Target Organs	None known.			
(j) aspiration hazard;	No data available	2		
Symptoms / effects,both acute and delayed	Inhalation of high tiredness, nause		ay cause symptoms like h	neadache, dizziness,
11.2. Information on other hazards				
Endocrine Disrupting Properties		e disrupting properties for ted endocrine disruptors.		duct does not contain any

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity **Ecotoxicity effects**

Do not empty into drains. Harmful 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	Freshwater Fish	Water Flea	Freshwater Algae
Diethanolamine	Pimephals prome: LC50: 140 mg/L/96h	EC50: = 55 mg/L, 48h (Daphnia magna)	EC50: 2.1 - 2.3 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: = 7.8 mg/L, 72h (Desmodesmus subspicatus)

Component	Microtox	M-Factor
Diethanolamine	EC50 = 73 mg/L 5 min	
	EC50 > 16 mg/L 16 h	

12.2. Persistence and degradability Persistence

Persistence is unlikely, based on information available. Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential

Degradation in sewage treatment plant

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Ethynylcyclopropane	1.355	No data available
Diethanolamine	-2.46	No data available

12.4. Mobility in soil

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces Will likely be mobile in the environment due to its volatility. Disperses rapidly in air

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

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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.
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	Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Do not let this chemical enter the environment.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number	UN1993
14.2. UN proper shipping name	Flammable liquid, n.o.s.
Technical Shipping Name	(ETHYNYLCYCLOPROPANE)
14.3. Transport hazard class(es)	3
14.4. Packing group	II

<u>ADR</u>

14.1. UN number	UN1993
14.2. UN proper shipping name	Flammable liquid, n.o.s.
Technical Shipping Name	(ETHYNYLCYCLOPROPANE)
14.3. Transport hazard class(es)	3
14.4. Packing group	II

<u>IATA</u>

<u>14.1. UN number</u>	UN1993
<u>14.2. UN proper shipping name</u>	FLAMMABLE LIQUID, N.O.S.*
Technical Shipping Name	(ETHYNYLCYCLOPROPANE)
<u>14.3. Transport hazard class(es)</u>	3
<u>14.4. Packing group</u>	II
14.5. Environmental hazards	No hazards identified

14.6. Special precautions for user No special precautions required.

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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
Ethynylcyclopropane	6746-94-7	-	425-430-1	-	Х	Х	-	Х	Х
Diethanolamine	111-42-2	203-868-0	-	-	Х	Х	KE-20959	Х	Х

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Ethynylcyclopropane	6746-94-7	-	-	-	-	-	-	-
Diethanolamine	111-42-2	Х	ACTIVE	Х	-	Х	Х	Х

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH

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)
Ethynylcyclopropane	6746-94-7	-	Use restricted. See item 75. (see link for restriction details)	-
Diethanolamine	111-42-2	-	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 Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Ethynylcyclopropane	6746-94-7	Not applicable	Not applicable
Diethanolamine	111-42-2	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 .

National Regulations

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

WGK Classification

Water endangering class = 1 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Diethanolamine	WGK2	

Component	France - INRS (Tables of occupational diseases)
Diethanolamine	Tableaux des maladies professionnelles (TMP) - RG 49, RG 49 bis

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

H225 - Highly flammable liquid and vapor

H315 - Causes skin irritation

H318 - Causes serious eye damage

H412 - Harmful 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/NDSL - 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 Key literature references and sources for data https://echa.europa.eu/information-on-chemicals Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, F	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)

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.

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Prepared By Creation Date Revision Date Revision Summary Health, Safety and Environmental Department 20-Jul-2010 02-Feb-2024 New emergency telephone response service provider.

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