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SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: ELATUR CH

Chemical name:
CYCLOHEXANE-1,2-DICARBOXYLIC ACID, DIISONONYL ESTER

Other means of identification
CAS Number: 474919-59-0

Recommended restrictions

Recommended use: Plasticiser for Polymers Phlegmatiser (to dilute organic peroxides) Construction Chemicals Manufacture of Coatings, Inks and Artist's Colours Preparation of Lubricants Preparation of Adhesives
Restrictions on use: not determined

Manufacturer/Importer/Distributor Information

Company Name	:	Evonik Corporation 299 Jefferson Road Parsippany, NJ 07054 USA
Telephone	:	+1 973 929 8000
Fax	:	+1 973 929 8041
E-mail	:	product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health Emergency	:	+1 800 424 9300 (CHEMTREC - US & CANADA) +1 800 681 9531 (CHEMTREC MEXICO) +1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: Not applicable

Precautionary Statements

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Chemical name:
CYCLOHEXANE-1,2-DICARBOXYLIC ACID, DIISONONYL ESTER

Substances

Chemical Identity	CAS number	Content in percent (%)*
1,2-Cyclohexanedicarboxylic acid, 1,2-dinonyl ester, branched and linear	474919-59-0	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information: Take care of your own personal safety. Take off all contaminated clothing immediately.

Inhalation: Bring affected person outside and ensure that he/she is comfortable. If symptoms persist, call a physician.

Skin Contact: Wash off with plenty of water and soap immediately. If symptoms persist, call a physician.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses if this can be easily done. Protect unharmed eye. Seek medical advice.

Ingestion: If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately.

Personal Protection for First-aid Responders: Self-contained breathing apparatus., chemical protective suit

Most important symptoms/effects, acute and delayed

Symptoms: No information available.

Hazards: None known.

Indication of immediate medical attention and special treatment needed

Treatment: Symptomatic treatment. No specific antidote known.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, CO2, dry powder.

Unsuitable extinguishing media:	high volume water jet
Specific hazards arising from the chemical:	In case of fire cool endangered containers with water. May be released in case of fire: carbon monoxide, carbon dioxide.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus. chemical protective suit

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Wear personal protective equipment; see section 8. Avoid contact with skin and eyes. Ensure adequate ventilation.
Methods and material for containment and cleaning up:	Take up mechanically or with an absorbent material. Fill into marked, sealable containers. To be disposed of in compliance with existing regulations. Suitable absorbents: universal absorbent Kieselguhr oil absorbent
Environmental Precautions:	Do not allow entrance in sewage water, drainage systems, stretches of water, soil. Issue an immediate alarm report to the company environmental protection department if the product unintentionally leaves the production area.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):	If possible, use material transfer/filling, metering and blending plants that are closed.Further InformationACGIH (American Conference of Governmental Industry Hygienists)
Safe handling advice:	Wear personal protective equipment; see section 8. Avoid contact with eyes, skin, and clothing. If possible, use material transfer/filling, metering and blending plants that are closed, or provide for local suction devices. Provide adequate ventilation.
Contact avoidance measures:	No data available.
Hygiene measures:	Remove contaminated or saturated clothing. Avoid contact with skin and eyes. Do not inhale vapours / aerosols. Wash hands before breaks and at the end of workday. Smoking, eating and drinking should be prohibited in the application area. Handle in accordance with good industrial hygiene and safety practice.

Storage

Safe storage conditions:	Normal measures for preventive fire protection.Store in the original receptacle, keeping this tightly sealed, under cool and dry conditions.Observe prohibition against storing together!Incompatible with oxidizing agents.
Safe packaging materials:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls

If possible, use material transfer/filling, metering and blending plants that are closed. Further Information ACGIH (American Conference of Governmental Industry Hygienists)

Individual protection measures, such as personal protective equipment

Eye/face protection:

Safety glasses with side-shields

Skin Protection

Hand Protection:

Material: Nitrile rubber.
Additional Information: Chemical-resistant protective gloves (EN 374)Additional Information: Selection of protective gloves to meet the requirements of specific workplaces., Suitability for specific workplaces should be clarified with protective glove manufacturers., The information is based on our own tests, references from the literature and information from glove manufacturers, or derived by analogy with similar materials., Remember that the useful time per day of a chemical protection glove may be much shorter than the permeation time determined according to EN 374 due to the many different influential factors involved (e.g. temperature).

Skin and Body Protection:

Select materials and equipment for physical protection depending on the concentration and volume of hazardous substances and the workplace involved.

Respiratory Protection:

In case of dusts/vapours/aerosols being formed or if the limit values like TLV are exceeded: use respiratory equipment with suitable filter (filter type A) or wear a self contained respiratory apparatus A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hygiene measures:

Remove contaminated or saturated clothing. Avoid contact with skin and eyes. Do not inhale vapours / aerosols. Wash hands before breaks and at the end of workday. Smoking, eating and drinking should be prohibited in the application area. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	colourless
Odor:	almost odourless
Odor Threshold:	No data available.
pH:	No data available. Cannot be determined due to low level of solubility in water.
Freezing point:	-54 °C (DIN / ISO 3016)
Boiling Point:	approx. 394 °C (1,013 hPa) (EEC method 92/69/EEC, A 2) At normal pressure, the substance decomposes when distilled.
Flash Point:	224 °C (EEC method 92/69/EEC, A 9) Prolonged thermal exposure might result in the release of outgassing

	combustible cleavage products.
Evaporation Rate:	No data available.
Flammability (solid, gas):	Not applicable liquid
Explosive limit - upper (%):	Due to the thermal decomposition behavior (cf. "Thermal Decomposition") the upper explosion limit cannot be determined.
Explosive limit - lower (%):	The thermal decomposition behavior (cf. "Thermal Decomposition") does not allow for the determination of meaningful values of the lower explosion limit. theoretical consideration It must be assumed that the vapors and degradation products released by this liquid will form explosive mixtures when a concentration of >= 40 g/Nm3 (20°C mixture temperature) or >= 33 g/Nm3 (200°C mixture temperature is mixed with air. lower explosion point approx. 170°C at approx. 1013kPa Due to the thermal decomposition behavior (cf. "Thermal Decomposition") the determined lower explosion point is only of limited significance.
Vapor pressure:	< 0.000001 hPa (20 °C) (EEC method 92/69/EEC, A 4)
Vapor density (air=1):	No data available.
Density:	0.95 g/cm3 (20 °C) (DIN 51757)
Relative density:	0.95 (20 °C) (OECD Test Guideline 109)
Solubility(ies)	
Solubility in Water:	< 0.02 mg/l (25 °C, Directive 92/69/EEC A.6)
Solubility (other):	Soluble in organic solvents
Partition coefficient (n-octanol/water):	10 (EEC method 92/69/EEC, A 8)
Self Ignition Temperature:	The substance or mixture is not classified as pyrophoric. Not to be expected in view of the structure
Decomposition Temperature:	> 278 °C Prolonged thermal exposure might result in the release of outgassing combustible cleavage products.
Kinematic viscosity:	No data available.
Dynamic viscosity:	52.24 mPa.s (20 °C, DIN 51 562) | 19.33 mPa.s (40 °C, DIN 51 562)
Other information	
Molecular weight:	424.66 g/mol
Explosive properties:	Not to be expected in view of the structure Not explosive as defined by EU hazardous substance law.
Oxidizing properties:	The substance or mixture is not classified as oxidizing. Not to be expected in view of the structure
Minimum ignition temperature:	330 °C (998 hPa, EEC method 92/69/EEC, A.15)
Formation of Flammable Gases:	Substance or mixture, which in contact with water, does not emit flammable gas, Not to be expected in view of the structure
Metal Corrosion:	Not corrosive to metals
Peroxides:	The substance or mixture is not classified as organic peroxide. Not to be expected in view of the structure
Self-heating:	

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability:	Under normal conditions: stable.
Possibility of hazardous reactions:	Reaction with strong oxidants. No hazardous reactions are known if properly handled and stored.
Conditions to avoid:	Keep away from heat and sources of ignition. To avoid thermal decomposition, do not overheat.
Incompatible Materials:	Strong oxidizing agents
Hazardous Decomposition Products:	In case of fire or thermal decomposition production of for example carbon monoxide, carbon dioxide Prolonged thermal exposure might result in the release of outgassing combustible cleavage products. see item 9

11. Toxicological information

Information on likely routes of exposure

Inhalation:	If handled correctly, not a relevant route of exposure. Information on effects are given below.
Skin Contact:	If handled correctly, not a relevant route of exposure. Information on effects are given below.
Eye contact:	If handled correctly, not a relevant route of exposure. Information on effects are given below.
Ingestion:	If handled correctly, not a relevant route of exposure. Information on effects are given below.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	If handled correctly, not a relevant route of exposure. Information on effects are given below.
Skin Contact:	Relevant route of exposure. Information on effects are given below.
Eye contact:	If handled correctly, not a relevant route of exposure. Information on effects are given below.
Ingestion:	If handled correctly, not a relevant route of exposure. Information on effects are given below.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: LD 50 (Rat): > 5,000 mg/kg

Dermal
Product: LD 50 (Rat): > 2,000 mg/kg

Inhalation
Product: No test results available.
Effects of breathing high concentrations of vapour may include:, possibly irritating

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation

Product: Mildly Irritating OECD Test Guideline 404 (Rabbit, 4 h): Mildly Irritating

Serious Eye Damage/Eye Irritation

Product: Not irritating Rabbit, 24 h: Not irritating

Respiratory or Skin Sensitization

Product: Magnusson & Kligman, Maximisation Test (Guinea Pig): Not a skin sensitizer. OECD Test Guideline 406
Based on available data, the classification criteria are not met.

Carcinogenicity

Product: Contains no carcinogenic substances as defined by NTP, IARC and/or OSHA. Not classified No cancerogenous effects were detected when high concentrations were given to experimental animals with the feed over a long period of time.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

In vitro

Product: Ames test (Mutagenicity (Salmonella typhimurium - reverse mutation assay)): no evidence of mutagenic effects
Bacterial reverse mutation assay (OECD TG 471): negative
Chromosomal aberration (OECD TG 473): none mutagenic / genotoxic effects
No mutagenic effects were determined in various investigations of microorganisms, cell cultures and in vivo data.

In vivo

Product: Chromosomal aberration (Mutagenicity (micronucleus test)) Intraperitoneal (Mouse, male): negative

Reproductive toxicity

Product: An Expert Judgment stated that no classification is necessary based on present knowledge. Animal model trials have produced no evidence of fertility damage.

Specific Target Organ Toxicity - Single Exposure

Product: Not classified Based on the information available, organ-specific toxicity is not to be expected after one single exposure.

Specific Target Organ Toxicity - Repeated Exposure

Product: Caused kidney effects in male rats which are not considered relevant to humans. Not classified

Aspiration Hazard

Product: Not classified

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: LC 50 (Brachydanio rerio, 96 h): > 100 mg/l No toxicity at the limit of solubility The reported toxic effects relate to the nominal concentration.

Aquatic Invertebrates

Product: EC 50 (Daphnia magna (Water flea), 48 h): > 100 mg/l The reported toxic effects relate to the nominal concentration. The test product is slightly soluble in the test medium. An eluate was tested.

Chronic hazards to the aquatic environment:

Fish

Product: No test results available.

Aquatic Invertebrates

Product: NOEC (Daphnia magna (Water flea), 21 d): >= 0.021 mg/l The test product is slightly soluble in the test medium. tested in the presence of emulsifiers Limit Test No toxicity at the limit of solubility
NOEL (Daphnia magna (Water flea), 21 d): 974.3 mg/l Nominal concentration Limit Test No toxicity at the limit of solubility

Toxicity to Aquatic Plants

Product: EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 100 mg/l The reported toxic effects relate to the nominal concentration. The test product is slightly soluble in the test medium. An eluate was tested.
NOEC (Desmodesmus subspicatus (green algae), 72 h): >= 100 mg/l The reported toxic effects relate to the nominal concentration. The test product is slightly soluble in the test medium. An eluate was tested.

Persistence and Degradability

Biodegradation

Product: 40 - 50 % (28 d, (CO_2; Sturm test / OECD 301 B))
90 - 100 % (60 d, (CO_2; Sturm test / OECD 301 B))

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: Danio rerio (zebra fish), Bioconcentration Factor (BCF): 189 (OECD 305) Not to be expected.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 10 25 °C (EEC method 92/69/EEC, A 8)

Mobility in soil: soil - Log Koc: 6.59 (OECD TG 121) HPLC screening method Adsorption on the floor occurs

Other adverse effects: Do not allow entrance in sewage water, soil stretches of water, groundwater, drainage systems.

13. Disposal considerations

General information: No waste key number as per the European Waste Types List can be assigned to this product, since such classification is based on the (as yet undetermined) use to which the product is put by the consumer. The waste key number must be determined as per the European Waste Types List (decision on EU Waste Types List 2000/532/EC) in cooperation with the disposal firm / producing firm / official authority.

Disposal methods: Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method.

Contaminated Packaging: Contaminated packages must be emptied as good as possible. They may then be recycled after proper cleaning. Packages that cannot be cleaned must be disposed of in the same way as the substance.

14. Transport information

Domestic regulation

49 CFR

Not regulated as a dangerous good

Remarks : Not dangerous according to transport regulations.

IBC Code Product Name: Cyclohexane-1,2-dicarboxylic acid, diisononyl ester; MARPOL Category: Y; Ship Type: 2

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not classified

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

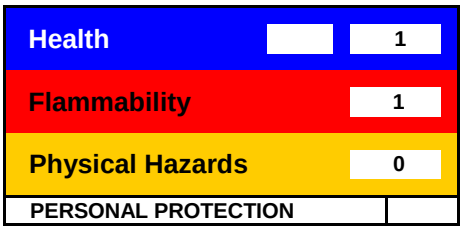
No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

16.Other information, including date of preparation or last revision

HMIS Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Issue Date: 06/04/2019

Version #: 1.0

Further Information: No data available.

Revision Information: Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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