

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

1.1. Product identifier

Product form : Mixture
Trade name : Himoloc KD4020
Type of product : Flocculant

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Product for paper and paperboard manufacturing

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

DERYPOL, S.A HQ:	Manufacturing:
C/Plató, n 6, Entlo, 5	C/Cal Gabatx, s/n
08021 Barcelona (Spain)	08520 Les Franqueses del Vallès (Spain)
Tel. +34 93 238 9090	Tel. +34 93 8496188
	regulatory@derypol.com

1.4. Emergency telephone number

Emergency number : +34 93 849 6188
9:00-13:00 h 15:00-17:00 h (GMT + 1)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Mixtures/Substances: SDS EU > 2015: According to Regulation (EU) 2015/830, 2020/878 (REACH Annex II)

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

Component

Dimethyldiallylammonium chloride-acrylamide copolymer(26590-05-6)	The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605
---	--

Himoloc KD4020

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Cationic acrylamide copolymer in aqueous dispersion

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Dimethyldiallylammonium chloride-acrylamide copolymer	CAS-No.: 26590-05-6	<21	Aquatic Chronic 3, H412

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Beware of possible existing spills of product. See previously the Safety Data Sheet and act accordingly. Do not perform any action that poses a risk if proper training is not held. Use the personal protective equipment necessary in the circumstances prevailing in the place of intervention.

First-aid measures after inhalation : In case of trouble go to the open air.

First-aid measures after skin contact : Remove the maximum amount of product by using absorbent paper and then rinse with plenty of water. In case of persistent irritation get medical advise.

First-aid measures after eye contact : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum).

First-aid measures after ingestion : Do not induce vomiting. Rinse mouth. Get medical advice/attention.

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

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/effects after inhalation : None expected.

Symptoms/effects after skin contact : None expected.

Symptoms/effects after eye contact : None expected.

Symptoms/effects after ingestion : Gastrointestinal discomfort. Repeated ingestion of the product is considered highly unlikely route of exposure if working in adequate sanitary and hygiene conditions.

Symptoms/effects upon intravenous administration : Likely routes of exposure: skin and eye.

Chronic symptoms : None known.

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

Treat symptomatically. Any ingredient in significant proportion according to the criteria laid down in Regulation 1272/2008 is mentioned in paragraph 3.2 of this Safety Data Sheet. Get medical attention urgently.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water, water spray, powder, foam (carbon dioxide (CO₂)).

Unsuitable extinguishing media : None.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable.

Explosion hazard : None known.

Hazardous decomposition products in case of fire : Under fire conditions thermal decomposition may produce: HCl, NH₃, nitrogen oxides (NO_x), carbon oxides (CO_x) and sulfur oxides (SO_x).

Himoloc KD4020

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

5.3. Advice for firefighters

Precautionary measures fire	: Stop leak if safe to do so.
Firefighting instructions	: Fight fire with normal precautions from a reasonable distance.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Use self-contained breathing apparatus and chemically protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Do not step on the spill and avoid contact with water. The affected area, in contact with water, will become extremely slippery.
----------------------	--

6.1.2. For emergency responders

Protective equipment	: Use personal protective equipment. Keep away from people without protection. Slipping hazard if spilled load. Avoid contact with eyes and skin. Do not breathe vapors or spray mist. Personal protective equipment, see section 8.
----------------------	--

6.2. Environmental precautions

Avoid the ground to be contaminated, natural water courses and wastewater drainage. If contamination occurs inform the corresponding authorities immediately.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: For small spills use inert absorbent materials and remove with a shovel; then flush the affected area with pressured water. For large spills contain them with absorbent material and pump out the product to adequate containers; then flush the affected area with pressured water.
-------------------------	---

6.4. Reference to other sections

See Section 8 to have information related to most appropriate personal protection equipment.
See Section 13 to have information related to waste management.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: We recommend handling the product in a well ventilated area. Ensure you have a safety shower and eye wash fountain available. Keep absorbent material as a precaution against spills.
Handling temperature	: 0 – 40 °C
Hygiene measures	: Use normal personal hygiene and housekeeping measures when handling any chemical product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in a well-ventilated place. Keep in a covered place with the drum well closed and within the recommended temperature range. Avoid extreme temperatures on long storage periods, especially at low temperatures, the product may undergo an emulsion degradation process. If this occurs we recommend mixing the product and moving it to a warmer storage zone.
Incompatible products	: As a general rule we recommend avoiding the contact with strong chemical reagents, such as acids, bases, reductors and oxidizers.
Storage temperature	: 0 – 40 °C
Heat and ignition sources	: Protect from sunlight. Direct sunlight may provoke slight product coloration and / or colored spots on its surface, which does not mean any degradation.

7.3. Specific end use(s)

For all the expected uses of the product the indications given above are considered appropriate.

Himoloc KD4020

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Natural ventilation is adequate in open areas. Provide mechanical ventilation in confined spaces.

8.2.2. Personal protection equipment

Personal protective equipment:

Safety glasses. Gloves.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses with side-shields

8.2.2.2. Skin protection

Skin and body protection:

Use a chemical resistant apron or full protective equipment depending on the handling level and contact risks with the product and its dissolutions

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Protective gloves	Nitrile rubber (NBR), Natural rubber, Polyvinylchloride (PVC), Latex, Vinyl				

Other skin protection

Materials for protective clothing:

Use your standard work clothes. In case of long contact with the product and risk of splash of its dissolutions use full waterproof suit

8.2.2.3. Respiratory protection

Respiratory protection:

Not necessary under normal conditions and provided good general ventilation

8.2.2.4. Thermal hazards

No additional information available

Himoloc KD4020

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid spills that contaminate the underground, surface water streams and sewer system.

Consumer exposure controls:

Be aware of your exposure to products used in your workplace and act responsibly to avoid contaminating other areas. Try to develop good health habits, check with your company responsible for help. Wash your hands and anybody area that has resulted exposed to the product before drinking, eating, using the services and end of the work period. You should always have a safety shower and eyewash in the area where the product is handled.

Other information:

Wash your hands and anybody area that has resulted exposed to the product before drinking, eating, using the services and end of the work period. You should always have a safety shower and eyewash in the area where the product is handled. Be aware of your exposure to products used in your workplace and act responsibly to avoid contaminating other areas. Try to develop good health habits, check with your company responsible for help.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: White milky liquid.
Odour	: Salty odor.
Odour threshold	: Not available
Melting point	: < 0 °C
Freezing point	: Not available
Boiling point	: > 100 °C
Flammability	: Not available
Explosive properties	: Product is not explosive.
Explosive limits	: Not available
Lower explosive limit (LEL)	: Not available
Upper explosive limit (UEL)	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 5 – 6.5
Viscosity, kinematic	: Not available
Viscosity, dynamic	: ≤ 3000 cP
Solubility	: Water soluble. Product solubility limit depend on dissolution conditions (concentration, pH, temperature, preparation system - agitation).
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: ≈ 1.2 g/cm ³
Relative density	: Not available
Relative vapour density at 20 °C	: Not available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

Himoloc KD4020

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

SECTION 10: Stability and reactivity

10.1. Reactivity

This product does not present any dangerous reactivity if used, stored and handled in accordance with this MSDS recommendations.

10.2. Chemical stability

Stable under normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No risk of explosion or polymerization or inflammation on contact with air, even at high temperatures (<100 ° C) and in the presence of ignition sources.

10.4. Conditions to avoid

None for safety reasons. For keeping the original properties of the product follow the recommendations given in Section 7.

10.5. Incompatible materials

Strong bases may provoke ammonia vapours. As a general rule we recommend avoiding the contact with strong chemical reagents, such as acids, bases, reductors and oxidizers.

10.6. Hazardous decomposition products

None under normal conditions. Thermal decomposition products (in case of fire) are indicated in Section 5.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : The product is not expected to be toxic by inhalation.

Himoloc KD4020	
LD50 oral rat	> 5000 mg/kg (Results based on a similar product)
LD50 dermal rat	> 5000 mg/kg (estimated)

Skin corrosion/irritation : Not classified
pH: 5 – 6.5
Serious eye damage/irritation : Although the product is not classified as irritant we note that prolonged contact may cause mild irritation.
pH: 5 – 6.5
Respiratory or skin sensitisation : Not sensitizing.
Germ cell mutagenicity : No data available.
Carcinogenicity : No data available.
Reproductive toxicity : No data available.
STOT-single exposure : No known effect.
STOT-repeated exposure : No known effect.
Aspiration hazard : No aspiration hazard is expected in normal use.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : No data available

11.2.2. Other information

Potential adverse human health effects and symptoms : No symptoms expected if the product is properly handled, No effects whatsoever related to exposure to the product are known.
Other information : The most likely routes of exposure are skin and/or eye contact, Through our experience and according to the information available, the product is not harmful to health if handled correctly according to the recommendations given.

Himoloc KD4020

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Himoloc KD4020	
LC50 - Fish [1]	10 – 100 mg/l (estimated value)
EC50 72h - Algae [1]	> 100 mg/l (estimated value)

12.2. Persistence and degradability

Himoloc KD4020	
Persistence and degradability	No data available.

12.3. Bioaccumulative potential

Himoloc KD4020	
Bioaccumulative potential	This is a high molecular weight, for this reason it will not permeate the membrane cell. There will be no bio-accumulation.

12.4. Mobility in soil

Himoloc KD4020	
Ecology - soil	No information available.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : No data available

12.7. Other adverse effects

Other adverse effects : None to mention.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste treatment methods : If this product must be disposed as a waste the final user must do it accordingly with the European, national and local regulations. Use only authorised companies. Empty containers and residual product must not be washed out with water, this would provoke an inappropriate dissolution of the product and it would increase the amount of waste to dispose. Exhaust as much as possible the product and dispose the empty container taking into account Section 13.1.
- Additional information : Keep the same recommendations provided in Sections 7 and 8 of this MSDS. Refer to Section 2 of this Safety Data Sheet. Furthermore, the user must consider the possible national/local regulations.

SECTION 14: Transport information

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

Himoloc KD4020

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

14.1. UN number or ID number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

Himoloc KD4020

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

14.7. Maritime transport in bulk according to IMO instruments

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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list $\geq 0,1 \%$ / SCL

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

The product should be considered a mixture. Given its classification is not necessary to perform a chemical safety assessment thereof.

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	Adverse health effects caused by endocrine disrupting properties	Added	
	Adverse effects on the environment caused by endocrine disrupting properties	Added	
	Reproductive toxicity - comment	Added	
	Germ cell mutagenicity - comment	Added	
	Carcinogenicity - comment	Added	
	SDS EU format	Added	
	Issue date	Modified	
3	Composition/information on ingredients	Modified	
4.2	Symptoms/effects upon intravenous administration	Added	
7.2	Incompatible products	Added	
8.2	Consumer exposure controls	Added	
9.1	Explosive properties	Added	
9.1	Viscosity, dynamic	Modified	
10.3	Possibility of hazardous reactions	Modified	
12.2	Persistence and degradability	Added	
12.4	Ecology - soil	Added	
16	Other information	Added	

Himoloc KD4020

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Abbreviations and acronyms

	REACH EC 1907/2006 regulation. Concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals. CLP: Classification, Labelling and Packaging. EC Regulation 1272/2008. DNEL: Derived No Effect Level. PNEC: Predicted No Effect Concentration. PBT: Persistent, Bioaccumulative and Toxic. vPvB: very Persistent and very Bioaccumulative.
--	---

Other information

: The latest version of the MSDS of this product can be obtained through the link <https://www.derypol.com/en/technical-documentation/>

. The main data sources are the Material Safety Data Sheet of the ingredients of this product, the available information and the applicable criteria for the classification of polymers.

Full text of H- and EUH-statements

Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
H412	Harmful to aquatic life with long lasting effects.
EUH210	Safety data sheet available on request.

Safety Data Sheet applicable for regions : GB

Safety Data Sheet (SDS), EU

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.