

SAFETY DATA SHEET

CLEAN FLOCCULATION CHEMICAL

SDS according to Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex II-EU

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

Date issued	05.11.2019
Revision date	05.11.2019

1.1. Product identifier

Product name	CLEAN FLOCCULATION CHEMICAL
UFI	YDDN-2VKH-5205-QV4S
Extended SDS with ES incorporated	Yes

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

Use of the substance / preparation	Water treatment chemical Flocculant.
Uses advised against	Do not use for non-identified uses.

1.3. Details of the supplier of the safety data sheet

Company name	UPONOR INFRA AB
Office address	Industrivägen 11
Postcode	SE-51332
City	Fristad
Country	Sweden
Telephone number	+46 33-172500
Email	info@uponor.com
Website	www.uponor.se
Enterprise No.	SE556911381301

1.4. Emergency telephone number

Emergency telephone	Description: Giftinformation – dygnet runt: tel. 112 vid inträffade förgiftningstillbud och begär: Giftinformation: tel. 010-456 67 00 i mindre brådskande fall – dygnet runt.
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Eye Dam. 1; H318 Met. Corr. 1; H290
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2.2. Label elements

Hazard pictograms (CLP)



Signal word	Danger
Hazard statements	H318 Causes serious eye damage. H290 May be corrosive to metals.
Precautionary statements	P102 Keep out of reach of children. P234 Keep only in original packaging. P280 Wear protective gloves/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. P101 If medical advice is needed, have product container or label at hand. P390 Absorb spillage to prevent material damage.
Supplemental label information	P501 Dispose of contents / container according to national and local regulations.

2.3. Other hazards

PBT / vPvB	This product does not contain any PBT or vPvB substances.
Other hazards	The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms. When heated, toxic and corrosive vapours/gases may be formed.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents	Notes
Polyaluminium chloride	CAS No.: 1327-41-9 EC No.: 215-477-2 REACH Reg. No.: 01-2119531563-43	Met. Corr. 1; H290 Eye Dam. 1; H318	25 - 50 %	

SECTION 4: First aid measures

4.1. Description of first aid measures

General	IF exposed or concerned: Get medical advice/attention. If medical advice is needed, have product container or label at hand.
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Inhalation	Move into fresh air and keep at rest. IF exposed: Call a POISON CENTER or doctor/physician.
Skin contact	Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. IF exposed: Call a POISON CENTER or doctor/physician.
Eye contact	Continue to rinse for at least 15 minutes and seek medical attention.
Ingestion	Immediately rinse mouth and drink plenty of water (200 - 300 ml). Do not induce vomiting. Get medical advice/attention.

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

General symptoms and effects	Corrosive. May cause blurred vision and serious eye damage.
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4.3. Indication of any immediate medical attention and special treatment needed

Medical treatment	Treat Symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials. The product is non-combustible.
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5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	The product is non-combustible. If heated, toxic vapours may be formed.
Hazardous combustion products	Hydrogen chloride (HCl).

5.3. Advice for firefighters

Personal protective equipment	Self contained breathing apparatus and full protective clothing must be worn in case of fire.
Other information	Avoid breathing dust / fume / gas / mist / vapours / spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Provide adequate ventilation.
Protective equipment	Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautionary measures	Runoff or release to sewer, waterway or ground is forbidden. Prevent spillage entering a watercourse or sewer, contaminating soil or vegetation. If this is not possible notify police and appropriate authorities immediately.
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6.3. Methods and material for containment and cleaning up

Clean up	Ventilate well. Dilute with copious amounts of water. Large Spillages: Remove spillage with vacuum cleaner. If not possible, collect
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spillage with shovel, broom or the like. Neutralise spilled material with crushed limestone, soda ash or lime. Shovel into dry containers. Cover and move the containers. Flush the area with water.

6.4. Reference to other sections

Other instructions For personal protection, see section 8.
For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling Provide sufficient air exchange and/or exhaust in work rooms.

Protective safety measures

Protective safety measures Use personal protective equipment as required. Do not get in eyes, on skin, or on clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage Store in tightly closed original container in a dry, cool and well-ventilated place.
Conditions to avoid Avoid frost.

Conditions for safe storage

Packaging compatibilities Plastic. (PE, PP, PVC).
Plastic lined steel drum.
Titanium
glass fiber strenghtened poly ester
Storage temperature Value: > 0 < 30 °C

7.3. Specific end use(s)

Specific use(s) Water treatment material.

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Substance	Identification	Exposure limits	TWA Year
	CAS No.: 1327-41-9	Country of origin: Great Britain Limit value type: TWA Limit value (8 h) : 2 mg/m ³ Comments: Calculated as Al	

DNEL / PNEC

DNEL Group: Professional
Route of exposure: Long-term oral (systemic)
Value: 0.5 mg/kg bw/day

PNEC	Comments: Aluminium chloride / Polyaluminium chloride (Calculated as Al)
	Group: Professional Route of exposure: Long-term inhalation (systemic) Value: 1,8 mg/m ³ Comments: Aluminium chloride / Polyaluminium chloride (Calculated as Al)
	Group: Consumer Route of exposure: Long-term oral (systemic) Value: 0.3 mg/kg bw/day Comments: Aluminium chloride / Polyaluminium chloride (Calculated as Al)
	Group: Consumer Route of exposure: Long-term inhalation (systemic) Value: 1,1 mg/m ³ Comments: Aluminium chloride / Polyaluminium chloride (Calculated as Al)
	Comments: Not relevant.

8.2. Exposure controls

Precautionary measures to prevent exposure

Appropriate engineering controls	Provide adequate ventilation. Avoid contact with skin and eyes. Use personal protective equipment as required.
Product related measures to prevent exposure	Provide eyewash, quick drench.

Eye / face protection

Suitable eye protection	Wear approved chemical safety goggles where eye exposure is reasonably probable.
Additional eye protection measures	Eyewash bottle with clean water.

Hand protection

Skin- / hand protection, short term contact	Protective gloves must be used if there is a risk of direct contact or splash.
Suitable gloves type	Rubber gloves are recommended.
Suitable materials	Polyvinyl chloride (PVC). Neoprene.
Hand protection, comments	The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Skin protection

Suitable protective clothing	Wear appropriate clothing to prevent reasonably probable skin contact. Apron or other light protective clothing and boots.
Additional skin protection measures	Wear rubber footwear.

Respiratory protection

Tasks needing respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Recommended type of equipment	Use respiratory equipment with particle filter, type P2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid
Physical state	Liquid.
Colour	Yellowish.
Odour	Not relevant.
pH	Value: ~ 1.5
Melting point / melting range	Value: - 30 °C
Boiling point / boiling range	Value: 100 - 120 °C
Flammability (solid, gas)	This product is not flammable.
Density	Value: 1,28 - 1,34 g/cm ³
Solubility	Comments: Completely soluble in water. Temperature: 20 °C
Partition coefficient: n-octanol/ water	Comments: Not applicable.
Decomposition temperature	Value: > 200 °C
Explosive properties	Not classified.
Oxidising properties	None.

9.2. Other information

Other physical and chemical properties

Physical and chemical properties	H290 May be corrosive to metals.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	H290 May be corrosive to metals.
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10.2. Chemical stability

Stability	Stable under normal temperature conditions.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Exothermic reaction with: Alkalis.
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10.4. Conditions to avoid

Conditions to avoid	Do not store near heat sources or exposed to high temperatures. Store above freezing.
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10.5. Incompatible materials

Materials to avoid	chlorites hypochlorites sulphites galvanized surfaces Iron. Strong alkalis.
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10.6. Hazardous decomposition products

Hazardous decomposition products	When heated, vapours/gases hazardous to health may be formed.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Effect tested: LD50 Route of exposure: Oral Value: > 2000 mg/kg Species: Rat Comments: (Calculated as AI)
	Effect tested: LD50 Route of exposure: Oral Value: > 487 mg/kg Species: Rat Comments: (Calculated as AI)
	Effect tested: LC50 Route of exposure: Inhalation. Value: > 5,6 mg/l Species: Rat Comments: (Calculated as AI)
	Effect tested: LC50 Route of exposure: Inhalation. Value: > 1,4 mg/l Comments: (Calculated as AI)
	Effect tested: LD50 Route of exposure: Dermal Value: > 2000 mg/kg
	Effect tested: LD50 Route of exposure: Dermal Value: > 550 mg/kg Comments: (Calculated as AI)

Other information regarding health hazards

Skin corrosion / irritation, other information	Prolonged and frequent contact may cause redness and irritation.
Eye damage or irritation, test results	Method: OECD 405 Species: Rabbit Evaluation result: Severe irritation.
Eye damage or irritation other information	Causes serious eye damage.
Sensitisation	Not Sensitising.
Mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity, other information	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Assessment of specific target organ toxicity - single exposure, classification	Based on available data, the classification criteria are not met.
Assessment of specific target organ toxicity - repeated exposure, classification	Based on available data, the classification criteria are not met.
Aspiration hazard, comments	Based on available data, the classification criteria are not met.

Symptoms of exposure

In case of ingestion	Irritating. May cause nausea, stomach pain and vomiting.
In case of skin contact	May irritate and cause redness and pain.
In case of inhalation	May cause irritation to the respiratory system.
In case of eye contact	Irritating and may cause redness and pain. Causes serious eye damage.

SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity, fish	Toxicity type: Acute Value: > 1000 mg/l Effect dose concentration : LC50 Exposure time: 96 hour(s) Species: Danio rerio (zebra fish)
Aquatic toxicity, algae	Toxicity type: Acute Value: 15.6 mg/l Effect dose concentration : EC50 Exposure time: 72 hour(s) Toxicity type: Acute Value: 1.1 mg/l Effect dose concentration : NOEC Exposure time: 72 hour(s) Species: Pseudokirchneriella subcapitata (green algae)
Aquatic toxicity, crustacean	Toxicity type: Acute Value: 98 mg/l Effect dose concentration : EC50

	Exposure time: 48 hour(s)
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12.2. Persistence and degradability

Persistence and degradability description/evaluation	Not Applicable - Inorganic chemical.
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12.3. Bioaccumulative potential

Bioaccumulation, comments	Bioaccumulation: Is not expected to be bioaccumulable. Not Applicable - Inorganic chemical.
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12.4. Mobility in soil

Mobility	The product is soluble in water.
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12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB.
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12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of disposal for the chemical	Waste is classified as hazardous waste. Dispose of waste and residues in accordance with local authority requirements.
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SECTION 14: Transport information

Dangerous goods	Yes
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14.1. UN number

ADR/RID/ADN	3264
IMDG	3264
ICAO/IATA	3264

14.2. UN proper shipping name

Proper shipping name English ADR/RID/ADN	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
ADR/RID/ADN	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name/danger releasing substance ADR/RID/ADN	(Aluminium chloride / Polyaluminium chloride)
IMDG	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name/danger releasing substance IMDG	(Aluminiumchloride / Polyaluminium chloride)
ICAO/IATA	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

Technical name/danger releasing substance ICAO/IATA	(Aluminiumchloride / Polyaluminium chloride)
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14.3. Transport hazard class(es)

ADR/RID/ADN	8
Classification code ADR/RID/ADN	C1
IMDG	8
ICAO/IATA	8

14.4. Packing group

ADR/RID/ADN	III
IMDG	III
ICAO/IATA	III

14.5. Environmental hazards

14.6. Special precautions for user

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

Product name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
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Additional information

Hazard label ADR/RID/ADN	8
Hazard label IMDG	8
Hazard label ICAO/IATA	8

ADR/RID Other information

Tunnel restriction code	E
Transport category	3
Hazard No.	80
Other applicable information ADR/RID	80

IMDG Other information

EmS	F-A, S-B
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SECTION 15: Regulatory information

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

Assessed restrictions	Not known.
Legislation and regulations	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of


18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

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 with amendments.

15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
CSR required	Yes

SECTION 16: Other information

Supplier's notes	The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.
List of relevant H-phrases (Section 2 and 3)	H290 May be corrosive to metals. H318 Causes serious eye damage.
CLP classification, notes	The information provided is based on data on ingredients.
Key literature references and sources for data	Manufacturers material safety data sheet 07.02.2019
Information added, deleted or revised	Relevant changes compared to the previous version of the safety data sheet are indicated with verticle lines in the left margin.
Version	2
Exposure scenario	 ESCleanFloc, ENG.pdf