

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

#### 1.1. Product identifier

Product form : Substance  
Substance name : CircoSan DFM

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec : For professional use only  
Use of the substance/mixture : Bleaching agents

##### 1.2.2. Uses advised against

No additional information available

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

##### Supplier

GEA Farm Technologies GmbH

Siemensstraße 25-27

59199 Bönen - Germany

T + 49 (0) 23839370

E-mail address of competent person responsible for the SDS: sds@gbk-ingelheim.de

##### Distributor

GEA Farm Technologies (UK) Ltd.

Wylle Works, Watery Lane, Bishopstrow,

Warminster, Wiltshire BA12 9Ht - United Kingdom

T + 44 (0)1985 216444

#### 1.4. Emergency telephone number

Emergency number : 24 Hour Emergency Telephone No. for advice on chemical emergencies, spillages, fires or  
First Aid: +44 (0) 870 1906777 (GEA Farm Technologies)  
NATIONAL: In England and Wales: 111, In Scotland: 111  
INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)

### SECTION 2: Hazards identification

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

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

Corrosive to metals, Category 1 H290  
Skin corrosion/irritation, Category 1A H314  
Serious eye damage/eye irritation, Category 1 H318  
Hazardous to the aquatic environment — Acute Hazard, Category 1 H400

Full text of H statements : see section 16

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

May be corrosive to metals. Causes severe skin burns and eye damage. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05

GHS09

Signal word (CLP) :

: Danger

Hazard statements (CLP) :

: H290 - May be corrosive to metals.  
H314 - Causes severe skin burns and eye damage.  
H400 - Very toxic to aquatic life.

Precautionary statements (CLP) :

: P102 - Keep out of reach of children.  
P235 - Keep cool.  
P103 - Read label before use.  
P302+P352 - IF ON SKIN: Wash with plenty of water.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P314 - Get medical advice/attention if you feel unwell.  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER, a doctor.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P404 - Store in a closed container.  
P273 - Avoid release to the environment.

EUH-statements

: EUH031 - Contact with acids liberates toxic gas.

### 2.3. Other hazards

PBT : Not applicable.  
vPvB : Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : CircoSan DFM

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sodium hypochlorite - 5% =< % active chlorine < 20%	(CAS-No.) 7681-52-9 (EC-No.) 231-668-3 (EC Index-No.) 017-011-00-1 (REACH-no) 01-2119488154-34	100	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 2, H411

### Specific concentration limits:

Name	Product identifier	Specific concentration limits
Sodium hypochlorite - 5% =< % active chlorine < 20%	(CAS-No.) 7681-52-9 (EC-No.) 231-668-3 (EC Index-No.) 017-011-00-1 (REACH-no) 01-2119488154-34	(C >= 5) EUH031

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 : Remove and wash contaminated clothing before re-use. Call a physician immediately.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.  
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.  
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.  
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately. Drink plenty of water or milk.

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

Symptoms/effects after skin contact : Burns.  
Symptoms/effects after eye contact : Serious damage to eyes.  
Symptoms/effects after ingestion : Burns.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Product does not burn, fire-extinguishing activities according to surrounding.  
Unsuitable extinguishing media : high volume water jet.

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

Fire hazard : Non flammable. May intensify fire; oxidiser.  
Hazardous decomposition products in case of fire : Toxic fumes may be released. Chlorine compounds.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.  
Other information : Cool containers at risk with water spray jet. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Ensure adequate air ventilation. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe spray, Vapours, mist.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

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

For containment : Collect spillage.  
Methods for cleaning up : Take up liquid spill into absorbent material.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe Do not breathe vapour/aerosol. Avoid contact with skin and eyes. Wear personal protective equipment. Keep container tightly closed.  
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store locked up. Store in a well-ventilated place. Keep cool.  
Incompatible materials : Acids. Metals.  
Information on mixed storage : Keep away from food, drink and animal feeding stuffs.  
Storage area : Incompatible with strong acids and oxidizing agents.

### 7.3. Specific end use(s)

See Heading 1.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Hand protection:

Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Chemically resistant protective gloves	Nitrile rubber	6 (> 480 minutes)	0,7	2 (< 1.5)	EN 374

#### Eye protection:

Eye wash bottle with pure water (EN 15154). Safety glasses

Type	Use	Characteristics	Standard
Safety goggles	Liquid splashes may occur	With side shields	EN 166

#### Skin and body protection:

Wear suitable protective clothing

Type	Standard
Long sleeved protective clothing	EN 368

### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. No personal breathing protective equipment is normally required

### Personal protective equipment symbol(s):



### Environmental exposure controls:

Avoid release to the environment.

### Other information:

Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of workday. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not breathe gas/vapour/aerosol.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Colour	: Green. Yellow
Odour	: chlorine. Soft
Odour threshold	: No data available
pH	: > 11
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: -17 °C
Boiling point	: 107 °C
Flash point	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not applicable
Flammability (solid, gas)	: Not applicable
	Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.16 g/cm <sup>3</sup>
Solubility	: Water: completely miscible
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not applicable.
Oxidising properties	: May intensify fire; oxidiser.
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Contact with acids liberates toxic gas (chlorine). Exothermic reaction with: Sodium (Na). Hydrogen peroxide. Reactions with oxidizing agents. Danger of explosion on contact with : Amines. Ammonium compounds.

### 10.2. Chemical stability

Stable under normal conditions. Slow decomposition possible.

### 10.3. Possibility of hazardous reactions

Contact with acids liberates toxic gas.

### 10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

### 10.5. Incompatible materials

Acids. alcohols. Oxidizing agent. Ammonia. Halogens. Aldehyde. Ketones.

### 10.6. Hazardous decomposition products

By contact with acids poisonous chloric gases can be released under heat development.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: > 11
Serious eye damage/irritation	: Causes serious eye damage. pH: > 11
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: Very toxic to aquatic life.
Acute aquatic toxicity	: Very toxic to aquatic life.
Chronic aquatic toxicity	: Not classified

### 12.2. Persistence and degradability

<b>CircoSan DFM</b>	
Persistence and degradability	Product is biodegradable.

### 12.3. Bioaccumulative potential

<b>CircoSan DFM</b>	
Bioaccumulative potential	Not potentially bioaccumulable.

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available






## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Disposal in accordance with local regulations. Should not be disposed of with household waste. Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Do not discharge into drains.
Product/Packaging disposal recommendations	: Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Additional information	: Recommended cleaning agent: Water with detergents.
Ecology - waste materials	: Avoid release to the environment.
European List of Waste (LoW) code	: 02 01 08* - agrochemical waste containing dangerous substances

## SECTION 14: Transport information

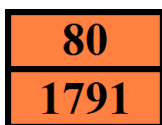
In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
1791	1791	1791	1791	1791
<b>14.2. UN proper shipping name</b>				
HYPOCHLORITE SOLUTION	HYPOCHLORITE SOLUTION	Hypochlorite solution	HYPOCHLORITE SOLUTION	HYPOCHLORITE SOLUTION
<b>Transport document description</b>				
UN 1791 HYPOCHLORITE SOLUTION, 8, III, (E), ENVIRONMENTALLY HAZARDOUS	UN 1791 HYPOCHLORITE SOLUTION, 8, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 1791 Hypochlorite solution, 8, III, ENVIRONMENTALLY HAZARDOUS	UN 1791 HYPOCHLORITE SOLUTION, 8, III, ENVIRONMENTALLY HAZARDOUS	UN 1791 HYPOCHLORITE SOLUTION, 8, III, ENVIRONMENTALLY HAZARDOUS
<b>14.3. Transport hazard class(es)</b>				
8	8	8	8	8
				
<b>14.4. Packing group</b>				
III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: C9
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC02, LP01, R001
Special packing provisions (ADR)	: B5
Mixed packing provisions (ADR)	: MP19
Transport category (ADR)	: 3
Hazard identification number (Kemler No.)	: 80
Orange plates	:



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

#### Transport by sea

Packing instructions (IMDG)	: P001, LP01
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Segregation (IMDG)	: SG20
Properties and observations (IMDG)	: Liquid with chlorine odour. In contact with acids, evolves very irritating and corrosive gases. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.

#### Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y841
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 852
PCA max net quantity (IATA)	: 5L

CAO packing instructions (IATA) : 856  
CAO max net quantity (IATA) : 60L  
Special provisions (IATA) : A3  
ERG code (IATA) : 8L

### Inland waterway transport

Classification code (ADN) : C9  
Special provisions (ADN) : 521  
Limited quantities (ADN) : 5 L  
Excepted quantities (ADN) : E1  
Equipment required (ADN) : PP, EP  
Number of blue cones/lights (ADN) : 0

### Rail transport

Classification code (RID) : C9  
Limited quantities (RID) : 5L  
Excepted quantities (RID) : E1  
Packing instructions (RID) : P001, IBC02, LP01, R001  
Transport category (RID) : 3  
Hazard identification number (RID) : 80

### 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

CircoSan DFM is not on the REACH Candidate List

CircoSan DFM is not on the REACH Annex XIV List

Seveso Additional information

: Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1; 41. Mixtures (\*) of sodium hypochlorite classified as Aquatic Acute Category 1 [H400] containing less than 5 % active chlorine and not classified under any of the other hazard categories in Part 1 of Annex I.

(\*) Provided that the mixture in the absence of sodium hypochlorite would not be classified as Aquatic Acute Category 1 [H400].

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Indication of changes:

All chapters have been modified since the previous version.

### Abbreviations and acronyms:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
DOT	Department of Transport
TDG	Transportation of Dangerous Goods
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
GHS	Globally Harmonized System of Classification, Labelling and Packaging of Chemicals
IARC	International Agency for Research on Cancer

vPvB	Very Persistent and Very Bioaccumulative
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
CAS	CAS (Chemical Abstracts Service) number
IBC-Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ATE	Acute Toxicity Estimate
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
BCF	Bioconcentration factor
MARPOL 73/78	MARPOL 73/78: International Convention for the Prevention of Pollution From Ships

Data sources : Raw material supplier's SDS. 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 : Data of sections 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities. The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge. The delivery specifications are contained in the corresponding product sheet. This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

Full text of H- and EUH-statements:	
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
EUH031	Contact with acids liberates toxic gas.

*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*