

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 1 of 12

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

1.1 Product identifier

Chlorado

UFI: XEV7-M930-8C97-T1AC

1.2 Relevant identified uses of the mixture and uses advised against

1.3 Details of the supplier providing the safety data sheet

Company name: Arcora International GmbH
Street: Marsstraße 9
Place: D-85609 Aschheim
Deutschland
Tel: +49 (0)89 / 14 33 29 3-0 Fax: +49 (0)89 / 14 33 29 3-29
E-Mail: info@arcora.de

1.4. Emergency number:

Poison emergency number of the Charité -
Universitätsmedizin Berlin -24H- Tel.: 030 30686700

SECTION 2: Potential hazards

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Skin corrosion/irritation: Skin cor. 1

Serious eye damage/eye irritation: Eye damage 1

Hazardous to the aquatic environment: Aqu. acute 1

Hazardous to the aquatic environment: Aqu. chron. 2

Hazard statements:

Causes severe skin burns and eye damage.

Causes severe eye damage.

Very toxic to aquatic organisms.

Toxic to aquatic organisms, with long lasting effects.

2.2 Labeling elements

Regulation (EC) No. 1272/2008

Hazard-determining components of labeling

Potassium hydroxide (cf. caustic potash)

Sodium hypochlorite solution

Signal word: Danger

Pictograms:



Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 2 of 12

Hazard warnings

- H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Safety instructions

- P260 Do not breathe dust/fume/gas/mist/vapor/aerosol.
P264 Wash thoroughly with water after use.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P330+P331 IN case of ingestion: Rinse out mouth. DO NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove all contaminated clothing immediately. Remove immediately. Wash skin with water or shower.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove to fresh air and allow person to breathe freely. unobstructed breathing.
P310 Immediately call POISON CENTER/doctor.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove any contact lenses if possible. Continue to rinse.
P310 Immediately call a POISON CENTER/physician.
P391 Absorb spillage.
P405 Keep locked up.
P501 Dispose of contents/container in accordance with local regulations

2.3 Other hazards

There is no information available.

SECTION 3: Composition/Information on ingredients

3.2 Mixtures

Hazardous ingredients

CAS-No.	Chemical name			Proportion
	EC-No.	Index-No.	REACH-No.	
	GHS classification			
1310-58-3	Potassium hydroxide (cf. caustic potash)			5 - < 10 %
	215-181-3		01-2119487136-33	
	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1A; H290 H302 H314			
7681-52-9	Sodium hypochlorite solution			1 - < 5 %
	231-668-3	017-011-00-1		
	Skin Corr. 1B, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H314 H318 H400 H410 EUH031			
37971-36-1	2-phosphonobutane-1,2,4-tricarboxylic acid			1 - < 5 %

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 3 of 12

	Met. Corr. 1, Eye Irrit. 2; H290 H319	
61788-90-7	(Fractionated coconut) dimethylamine oxide	1 - < 5 %
	263-016-9	
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 2; H302 H315 H318 H400 H411	

Wording of H- and EUH-phrases: see section 16.

Specific concentration limits, M-factors and ATE

CAS-No.	EC-No.	Chemical name	Proportion
		Specific concentration limits, M-factors and ATE	
1310-58-3	215-181-3	Potassium hydroxide (cf. caustic potash)	5 - < 10 %
		oral: LD50 = 273 mg/kg	
7681-52-9	231-668-3	Sodium hypochlorite solution	1 - < 5 %
		M acute; H400: M=10 M chron.; H410: M=1 EUH; EUH031: >= 5 - 100	
37971-36-1		2-phosphonobutane-1,2,4-tricarboxylic acid	1 - < 5 %
		inhalation: missing data (gases); dermal: LD50 = >2,000 mg/kg; oral: LD50 = >2,000 mg/kg	
61788-90-7	263-016-9	(Fractionated coconut) dimethylamine oxide	1 - < 5 %
		inhalation: missing data (gases); dermal: missing data; oral: LD50 = > 2 000 mg/kg	

SECTION 4: First aid measures

4.1 Description of first aid measures Nach Einatmen

General notes

First aider: Pay attention to self-protection! Remove the victim from the danger zone and lay him down.

After inhalation

Provide fresh air. Medical treatment necessary.

After skin contact

In case of contact with skin, wash immediately with plenty of soap and water. Immediately remove all contaminated clothing immediately and wash before reuse. In case of skin irritation: Seek medical advice/attention.

After eye contact

In case of contact with the eyes, apply immediately with the eyelids open for 10 to 15 minutes with running water and consult an ophthalmologist.

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 4 of 12

After ingestion

In case of vomiting, observe risk of aspiration. Rinse out mouth immediately and drink 1 glass of water. DO NOT Induce vomiting. Possible adverse effects on humans and possible symptoms: Gastric perforation. Seek medical attention immediately. Do not allow neutralizer to drink.

4.2 Most important symptoms and effects, both acute and delayed

There is no information available.

4.3 Indications for immediate medical help or special treatment

Symptomatic treatment.

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing agents

Adapt extinguishing measures to the surroundings.

5.2 Special hazards arising from the substance or mixture

Not flammable.

5.3 Instructions for fire fighting

Wear self-contained breathing apparatus and chemical protective suit. Full protective suit.

Additional notes

Knock down gases/vapors/mist with water spray jet. Collect contaminated extinguishing water separately. Do not allow to enter drains or waterways.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and procedures to be used in case of emergency

Ensure adequate ventilation. Do not breathe gas/fume/vapor/aerosol. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

6.2 Environmental protection measures

Do not allow to enter drains or water courses.

6.4 Reference to other sections

Safe handling: see section 7

Personal protective equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1 Protective measures for safe handling

Notes on safe handling

In case of open handling, use devices with local exhaust ventilation. Gas/fume/vapor/aerosol
Do not inhale.

Notes on fire and explosion protection

No special fire protection measures required.

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 5 of 12

7.2 Conditions for safe storage taking into account incompatibilities

Requirements for storage rooms and containers

Keep container tightly closed. Store under lock and key. Store in a place accessible only to authorized persons. Ensure sufficient ventilation and spot extraction at critical points.

Storage together instructions

No special precautions required.

Storage class according to TRGS 510: 8B (non-flammable corrosive hazardous substances)

SECTION 8: Exposure controls/personal protective equipment

8.1 Parameters to be monitored

DNEL/DMEL values

CAS-No.	Chemical name			
DNEL Type	Exposure route	Effect	Value	
37971-36-1	2-phosphonobutane-1,2,4-tricarboxylic acid			
Consumer DNEL, acute	oral	systemic	65 mg/kg KG/d	
Consumer DNEL, long term	oral	systemic	2,1 mg/kg KG/d	
Worker DNEL, acute	dermal	systemic	80 mg/kg KG/d	
Worker DNEL, long term	dermal	systemic	4,2 mg/kg KG/d	
Consumer DNEL, acute	dermal	systemic	40 mg/kg KG/d	
Consumer DNEL, long term	dermal	systemic	21 mg/kg KG/d	
Worker DNEL, acute	inhalative	systemic	158 mg/m ³	
Worker DNEL, long term	inhalative	systemic	15 mg/m ³	
Consumer DNEL, acute	inhalative	systemic	3,7 mg/m ³	
Consumer DNEL, long term	inhalative	systemic	3,7 mg/m ³	
61788-90-7	(Fractionated coconut) dimethylamine oxide			
Worker DNEL, long term	inhalative	systemic	15,5 mg/m ³	
Worker DNEL, long term	dermal	systemic	11 mg/kg KG/d	
Consumer DNEL, long term	inhalative	systemic	3,8 mg/m ³	
Consumer DNEL, long term	dermal	systemic	5,5 mg/kg KG/d	
Consumer DNEL, long term	oral	systemic	0,44 mg/kg KG/d	

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 6 of 12

PNEC-values

CAS-No.	Chemical name	
	Environmental compartment	Value
37971-36-1	2-phosphonobutane-1,2,4-tricarboxylic acid	
	Freshwater	3,33 mg/l
	Seawater	0,33 mg/l
	Freshwater sediment	1,47 mg/kg
	Microorganisms in wastewater treatment plants	50,4 mg/l
	Soil	0,491 mg/kg
61788-90-7	(Fractionated coconut) dimethylamine oxide	
	Freshwater	0,0335 mg/l
	Seawater	0,00335 mg/l
	Freshwater sediment	1,14 mg/kg
	Marine sediment	0,114 mg/kg
	Secondary poisoning	11,1 mg/kg
	Microorganisms in wastewater treatment plants	24 mg/l
	Soil	0,906 mg/kg

Additional notes on limit values

So far, no national limits have been set.

8.2 Exposure controls and monitoring



Suitable technical control equipment

In case of open handling, use devices with local exhaust ventilation. Gas/fume/vapor/aerosol
Do not inhale.

Protection and hygiene measures

Immediately remove soiled, saturated clothing. Draw up and follow the skin protection plan!
Before breaks and at the end of work, wash hands and face thoroughly, shower if necessary. Do not eat at the workplace, drink, smoke or sniff at the workplace.

Eye/face protection

Suitable eye protection: basket goggles.

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 7 of 12

Handschutz

When handling chemical agents, only chemical protective gloves with a CE marking including a four-digit test number may be worn. The design of chemical protective gloves must be selected for the specific workplace, depending on the concentration and quantity of the hazardous substance. It is recommended to clarify the chemical resistance of the above mentioned protective gloves for special applications with the glove manufacturer.

Body protection

Use of protective clothing.

Respiratory protection

Wear respiratory protection in case of insufficient ventilation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Aggregate state:	liquid	
Color:	clear	
Odour:	characteristic	
pH-value (at 20 °C):		12,5

Changes of state

Melting point/freezing point:	not determined
Boiling point or start of boiling and Boiling range:	100°C
Flash point:	not determined

Flammability

Solid:	not applicable
Gas:	not applicable

Explosion hazards

The product is not: Explosive.

Lower explosion limit:	not determined
Upper explosion limit:	not determined
Ignition temperature:	not determined
Decomposition temperature:	not determined

Fire promoting properties

The product is not: oxidizing.

Vapor pressure:	not determined
Density (at 20 °C):	1.21 g/cm ³
Solubility in water:	slightly soluble

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
Relative vapor density:	not determined
Evaporation rate:	not determined

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 8 of 12

9.2 Other information

Solids content: not determined

SECTION 10: Stability and reactivity

10.1 Reactivity

Possibility of hazardous reactions.

10.2 Chemical stability

The product is stable when stored at normal ambient temperatures.

10.3 Possibility of hazardous reactions

Exothermic reaction with: Acid, peroxides, oxidizing agents.

10.4 Conditions to avoid

None

10.5 Incompatible materials

Keep away from: Acid, oxidizing agents, peroxides.

10.6. Gefährliche Zersetzungsprodukte

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

CAS-No.	Chemical name				
	Exposure route	Dose	Species	Source	Method
1310-58-3	Potassium hydroxide (cf. caustic potash)				
	oral	LD50 273 mg/kg	rat		
37971-36-1	2-phosphonobutane-1,2,4-tricarboxylic acid				
	oral	LD50 >2.000 mg/kg	rat		
	dermal	LD50 >2.000 mg/kg	rat		
	inhalative	Missing data			
61788-90-7	(Fractionated coconut) dimethylamine oxide				
	oral	LD50 > 2 000 mg/kg	rat		
	dermal	Missing data			
	inhalative	Missing data			

General remarks

The mixture is classified as hazardous according to Regulation (EC) No 1272/2008 [CLP].

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 9 of 12

SECTION 12: Environmental information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

CAS-No.	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
1310-58-3	Potassium hydroxide (cf. caustic potash)					
	Acute fish toxicity	LC50 80 mg/l	96 h	Gambusia affinis	IUCLID	
37971-36-1	2-phosphonobutane-1,2,4-tricarboxylic acid					
	Acute algal toxicity	ErC50 860 mg/l		Algae		
	Acute Crustacean toxicity	EC50 3.440 mg/l	48 h	Oncorhynchus mykiss		
61788-90-7	(Fractionated coconut) dimethylamine oxide					
	Acute fish toxicity	LC50 > 1 - 10	96 h	Pimephales promelas		
	Acute algal toxicity	ErC50 > 0,1 - 1	72 h	Pseudokirchneriella subcapitata		OECD test guideline 201
	Acute Crustacean toxicity	EC50 > 1 - 10	48 h	Daphnia magna		OECD test guideline 201
	Algal toxicity	NOEC > 0,01 – 0,1 mg/l	3 d	Pseudokirchneriella subcapitata		

12.2 Persistence and degradability

The product has not been tested.

12.3 Bioaccumulative potential

The product has not been tested.

12.4 Mobility in soil

The product has not been tested.

12.5 Results of PBT and vPvB assessment

The product has not been tested.

12.6. Andere schädliche Wirkungen

There is no information available.

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 10 of 12

Further notes

Do not allow to enter drains or water courses. Do not allow to enter subsoil/soil.

SECTION 13: Notes on disposal

13.1 Waste treatment process

Recommendations for disposal

Do not allow to enter drains or water courses. Do not allow to enter subsoil/earth.
Dispose of in accordance with official regulations.

Disposal of uncleaned packaging and recommended cleaning agents

Non-contaminated and completely empty packaging can be recycled.
Contaminated packaging must be treated in the same way as the substance.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1 UN-number:	UN 1719
14.2 proper	CORROSIVE ALKALINE LIQUID, N.O.S.
UN shipping name:	
14.3 transport hazard class:	8
14.4 packing group:	III
Hazard label:	8



Classification code:	C5
Special regulations:	274
Limited quantity (LQ):	5 L
Exempted quantity:	E1
Transport category:	3
Hazard number:	80
Tunnel Restriction Code:	E

14.6 Special precautions for the user

Warning: strongly corrosive.

14.7. carriage in bulk according to Annex II of MARPOL Convention and according to IBC Code not applicable

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 11 of 12

SECTION 15: Legislation

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

EU regulations

Restrictions on use (REACH, Annex XVII):

Entry 3

Information on the SEVESO III directive
2012/18/EU:

E1 Hazardous to waters

National regulations

Employment Restriction:

Observe employment restrictions for young people
(§ 22 JArbSchG).

Water Hazard Class:

2 - clearly hazardous to water

Status:

Classification of mixtures according to Annex 1, No. 5
AWSV

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture have not been performed.

SECTION 16: Other information

Changes

This data sheet contains changes to the previous version in the section(s):

1,2,4,5,6,7,8,9,10,11,12,13,14,15,16.

Abbreviations and acronyms

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Regulations concerning the international carriage of dangerous goods by rail

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

SVHC: Substance of Very High Concern

Safety Data Sheet

according to Regulation (EC) No 1907/2006



CHLORADO

Compilation date: 11.12.2015
Revision date: 06.09.2021

Page 12 of 12

For abbreviations and acronyms, see directory at <http://abk.esdscom.eu>

Classification of mixtures and assessment method used according to Regulation (EC) No 1272/2008. [CLP]

Classification	Classification procedure
Skin Corr. 1; H314	Based on test data
Eye Dam. 1; H318	Based on test data
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 2; H411	Calculation method

Wording of H- and EUH-phrases (number and full text)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes severe eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH031	Contact with acids liberates toxic gas.

Further information

The information provided is based on our current knowledge, but does not constitute a warranty of product characteristics and do not establish a contractual legal relationship. Existing laws and regulations. The recipient of our products is responsible for complying with existing laws and regulations.

(The data of the hazardous ingredients were taken from the latest safety data sheet of the supplier).