

# Choline chloride

## Safety Data Sheet

**C0605**

according to Regulation (EU) 2015/830

Version: 2.0

Date of issue: 21/09/2010    Revision date: 28/09/2017  
Supersedes 12/06/2012

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

#### 1.1. Product identifier

Product form : Substance  
Trade name : Choline chloride  
EC-No. : 200-655-4  
CAS-No. : 67-48-1  
REACH registration No : 01-2119974137-31  
Product code : C0605  
Formula : C5H14NO.Cl  
Synonyms : (2-hydroxyethyl)trimethylazanium chloride

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

##### 1.2.2. Uses advised against

No additional information available

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

Duchefa Biochemie B.V.  
A. Hofmanweg 71  
2031 BH Haarlem - The Netherlands  
T +31(0)23-5319093 - F +31(0)23-5318027  
[info@duchefa.nl](mailto:info@duchefa.nl)

#### 1.4. Emergency telephone number

Emergency number : Supplier contact information:  
+31(0)23-5319093 (M-F 09:00-17:00)  
+31(0)6-30109355 (outside office hours)

Organisation/Company	Address	Comment
World Health Organization world directory of poison centres	<a href="http://apps.who.int/poisoncentres/">http://apps.who.int/poisoncentres/</a>	Consult website for a local poison centre

### SECTION 2: Hazards identification

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

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

Serious eye damage/eye irritation, Category 2 H319  
Skin corrosion/irritation, Category 2 H315  
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335

Full text of hazard classes and H-statements : see section 16

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

No additional information available

## 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazard statements (CLP) :

: H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H335 - May cause respiratory irritation.

Precautionary statements (CLP) :

: P280 - Wear protective gloves, protective clothing, eye protection, face shield.  
P305+P351 - IF IN EYES: Rinse cautiously with water for several minutes.

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : Choline chloride

CAS-No. : 67-48-1

EC-No. : 200-655-4

Name	Product identifier	%
Choline chloride	(CAS-No.) 67-48-1 (EC-No.) 200-655-4	>= 98

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 after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a doctor.

First-aid measures after skin contact : Take off immediately all contaminated clothing. Rinse skin with water/shower. Obtain medical attention.

First-aid measures after eye contact : Rinse immediately with plenty of water. Get medical advice/attention.

First-aid measures after ingestion : Give water to drink. If you feel unwell, seek medical advice.

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

Symptoms/effects : May cause eye irritation. May cause skin irritation. Breathing difficulties.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water. Carbon dioxide (CO<sub>2</sub>). Alcohol resistant foam. Dry chemical powder.

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

Reactivity in case of fire : When exposed to heat, may decompose liberating hazardous gases.

Hazardous decomposition products in case of fire : Nitrogen oxides. HCl.

### 5.3. Advice for firefighters

Firefighting instructions : Reduce vapour with fog or fine water spray.

Protection during firefighting : Use self-contained breathing apparatus and chemically protective clothing.

Other information : Prevent fire fighting water from entering the environment.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing.

Measures in case of dust release : Do not breathe dust.

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Do not allow to enter drains or water courses.

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

Methods for cleaning up : Sweep up dry powder and dispose properly.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Do not get in eyes, on skin, or on clothing.

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

Storage conditions : Keep container tightly closed and dry. Store at room temperature.

### 7.3. Specific end use(s)

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

**Hand protection:**

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Type	Material	Permeation	Thickness (mm)	Standard
Gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,11	EN 374

**Eye protection:**

Safety glasses

**Skin and body protection:**

Wear suitable protective clothing

**Respiratory protection:**

Dust production: dust mask with filter type P2

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Crystals.
Molecular mass	: 139,6 g/mol
Colour	: Colourless.
Odour	: Amine-like.
Odour threshold	: No data available
pH	: No data available
pH solution	: 4 - 6 (100 g/l, 20°C)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 302 - 305 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: ≈ 140 g/l
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No additional information available

**10.2. Chemical stability**

Stable under normal conditions of use.

**10.3. Possibility of hazardous reactions**

No additional information available

**10.4. Conditions to avoid**

Overheating. Moisture.

**10.5. Incompatible materials**

Strong acids. Strong bases. Strong oxidizers.

**10.6. Hazardous decomposition products**

According to process conditions, hazardous decomposition products may be generated.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects**

Acute toxicity : Not classified

<b>Choline chloride (67-48-1)</b>	
LD50 oral rat	3400 mg/kg

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation : May cause sensitization by inhalation and skin contact.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : May be harmful if inhaled.

Other information : See actual entry in RTECS for complete information: KH2975000.

**SECTION 12: Ecological information****12.1. Toxicity**

<b>Choline chloride (67-48-1)</b>	
LC50 fish 1	> 10000 mg/l <i>Leuciscus idus</i>
EC50 72h algae (1)	> 500 mg/l <i>Desmodesmus subspicatus</i>

**12.2. Persistence and degradability**

<b>Choline chloride (67-48-1)</b>	
Biodegradation	60 % 5d

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**12.3. Bioaccumulative potential**

No additional information available

**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**

Additional information : Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

Waste treatment methods : Dispose in a safe manner in accordance with local/national regulations.

**SECTION 14: Transport information**

In accordance with ADR / IATA / IMDG

ADR	IMDG	IATA
<b>14.1. UN number</b>		
Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>		
Not applicable	Not applicable	Not applicable
No supplementary information available		

**14.6. Special precautions for user****. Overland transport**

Not applicable

**- Transport by sea**

Not applicable

**- Air transport**

Not applicable

**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

Choline chloride is not on the REACH Candidate List

Choline chloride is not on the REACH Annex XIV List

**15.1.2. National regulations****Germany**

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 1134)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

**Netherlands**

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

**Denmark**

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

**15.2. Chemical safety assessment**

No additional information available

**SECTION 16: Other information**

Indication of changes:

1.4	Emergency number	Modified	
2	Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]	Removed	Obsolete
8.2	Hand protection	Modified	Specified material, thickness, et cetera of gloves
9.1	Colour	Modified	

Abbreviations and acronyms:

ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC

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IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet

Data sources : Manufacturer. 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.

### Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

SDS Biochemicals version 2017

*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*