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

1.1 Product identifier

Chloral hydrate, USP (123170)

Chloral hydrate ; CAS No. : 302-17-0 ; EC No. : 206-117-5 ; Index No. : 605-014-00-6 ; REACH No. : 01-2120117773-57-XXXX

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

Relevant identified uses

For manufacturing, processing, laboratory or repacking use only.

Uses advised against

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

DC Fine Chemicals

Street : Avda. del Vallès 362

Postal code/City : 08227 Terrassa Spain

Telephone : +34 934 407 565

Information contact : info@dcfinechemicals.com

1.4 Emergency telephone number

+34 934 407 565 (Only available during office hours; Monday-Friday; 07:00-15:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation GHS

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

Acute Tox. 3 ; H301 - Acute toxicity (oral) : Category 3 ; Toxic if swallowed.
Skin Irrit. 2 ; H315 - Skin corrosion/irritation : Category 2 ; Causes skin irritation.
Eye Irrit. 2 ; H319 - Serious eye damage/eye irritation : Category 2 ; Causes serious eye irritation.

2.2 Label elements

Labelling according to Regulation GHS

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

Hazard pictograms

Skull and crossbones (GHS06) · Exclamation mark (GHS07)

Signal word

DANGER

Hazard statements

H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary statements

P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P405	Store locked up.

2.3 Other hazards

This substance/mixture contains no components considered to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Chloral hydrate

Index No. : 605-014-00-6

EC No. : 206-117-5

REACH No. : 01-2120117773-57-XXXX

CAS No. : 302-17-0

Purity : 100 % [mass]

SECTION 4: First aid measures

Immediate medical attention is required. Delayed effects may occur after the exposure to the product.

4.1 Description of first aid measures

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. In case of skin reactions, consult a physician. After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. If accidentally ingested, seek immediate medical attention, NEVER induce vomiting. Remove victim out of the danger area. In case of inhalation take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration.

4.2 Most important symptoms and effects, both acute and delayed

Accidental contact may result in serious respiratory difficulties, alteration of the central nervous system and in extreme cases, unconsciousness.

4.3 Indication of any immediate medical attention and special treatment needed

Request immediate medical attention. Never administer anything orally to persons who are unconscious. Do not induce vomiting. If the person vomits, clear the respiratory tract. Keep the person comfortable. Turn him/her over to the left side and stay there while waiting for medical care.

SECTION 5: Firefighting measures

The product does not present any particular risk in case of fire.

5.1 Extinguishing media

Suitable extinguishing media

Extinguisher powder or CO2. In case of more serious fires, also alcohol-resistant foam and water spray.

Unsuitable extinguishing media

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Pyrolysis products, toxic

5.3 Advice for firefighters

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

Special protective equipment for firefighters

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Clear spills immediately.

For non-emergency personnel

Wear a self-contained breathing apparatus and chemical protective clothing. Remove persons to safety.

For emergency responders

Eliminate possible ignition points and ventilate the area. No smoking. Avoid breathing fumes.For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up

For containment

Collect in closed and suitable containers for disposal.

For cleaning up

The contaminated area should be cleaned up immediately with: Water Soak up inert absorbent and dispose as waste requiring special attention. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Avoid dust formation.

6.4 Reference to other sections

Reference to other sections Disposal: see section 13 Personal protection equipment: see section 8

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

When using do not eat, drink, smoke, sniff. Wear personal protection equipment (refer to section 8).

Measures to prevent aerosol and dust generation
Use only in well-ventilated areas. Do not breathe gas/fumes/vapour/spray. Do not breathe dust.

Environmental precautions
Use appropriate container to avoid environmental contamination.

Specific requirements or handling rules
Handle and open container with care.

Advices on general occupational hygiene
Handle and open container with care.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
Storage temperature :
Keep in a cool, well-ventilated place. Protect against UV-radiation/sunlight Humidity.

Requirements for storage rooms and vessels
Only use containers specifically approved for the substance/product.

Hints on joint storage
Store at least 3 metres apart from: Chemicals/products that react together readily

Storage class (TRGS 510) : 6.1D

7.3 Specific end use(s)
None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
None

8.2 Exposure controls
Only wear fitting, comfortable and clean protective clothing.

Personal protection equipment

Eye/face protection

Eye glasses with side protection Face protection shield EN 166

Skin protection

Hand protection

Tested protective gloves must be worn EN ISO 374 The quality of the protective gloves resistant to

chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Body protection

Full protection suit Wash contaminated clothing prior to re-use.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used. Particle filter device (EN 143).

Thermal hazards

No information available.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : solid

Safety characteristics

Melting point/freezing point :	(1013 hPa)		52	°C	
Initial boiling point and boiling range :	(1013 hPa)		97	°C	
Decomposition temperature :	(1013 hPa)	>	97	°C	
Flash point :			No data available		
Auto-ignition temperature :			No data available		
Lower explosion limit :			No data available		
Upper explosion limit :			No data available		
Vapour pressure :	(50 °C)		No data available		
Density :	(20 °C)		1,91	g/cm^3	
Solvent separation test :	(20 °C)		not applicable		
Water solubility :	(20 °C)		6600	g/l	
Fat solubility :	(20 °C)		No data available.		
pH :	(20 °C / 100 g/l)		3,5 - 5,5		
log P O/W :			0,99		
Flow time :	(20 °C)		No data available		DIN-cup 4 mm
Viscosity :	(20 °C)		No data available		
Relative vapour density :	(20 °C)		5,7	(air = 1)	
Evaporation rate :			No data available		
Flammable solids :	No data available.				

Flammable gases : No data available.
Explosive properties : No data available.

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

The product does not present hazards by their reactivity.

10.2 Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature. Safe handling: see section 7

10.3 Possibility of hazardous reactions

The product does not present possibility of hazardous reactions.

10.4 Conditions to avoid

Avoid any improper handling.

10.5 Incompatible materials

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

10.6 Hazardous decomposition products

In case of fire may be liberated: Hazardous combustion products

SECTION 11: Toxicological information

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

Acute toxicity

Acute oral toxicity

Parameter :	LD50 (Chloral hydrate ; CAS No. : 302-17-0)
Exposure route :	Oral
Species :	Rat
Effective dose :	3000 mg/kg

Corrosion

Skin corrosion/irritation

No information available.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitisation

No information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No information available.

Germ cell mutagenicity

No information available.

Reproductive toxicity

No information available.

STOT-single exposure
No information available.

STOT-repeated exposure
No information available.

Aspiration hazard
No information available.

11.2 Information on other hazards
No information available.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter :	LC50 (Chloral hydrate ; CAS No. : 302-17-0)
Species :	Leuciscus idus (golden orfe)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	1720 mg/l
Exposure time :	48 hour(s)

Acute (short-term) toxicity to crustacea

Parameter :	EC50 (Chloral hydrate ; CAS No. : 302-17-0)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) toxicity to crustacea
Effective dose :	510 mg/l
Exposure time :	24 hour(s)
Parameter :	EC0 (Chloral hydrate ; CAS No. : 302-17-0)
Species :	E.Sulcatum
Evaluation parameter :	Acute (short-term) toxicity to crustacea
Effective dose :	79 mg/l
Exposure time :	72 hour(s)
Parameter :	EC5 (Chloral hydrate ; CAS No. : 302-17-0)
Species :	Pseudomonas putida
Evaluation parameter :	Acute (short-term) toxicity to crustacea
Effective dose :	1,6 mg/l
Exposure time :	16 hour(s)

Acute (short-term) toxicity to algae and cyanobacteria

Parameter :	IC5 (Chloral hydrate ; CAS No. : 302-17-0)
Species :	Scenedesmus quadricauda
Evaluation parameter :	Acute (short-term) toxicity to algae and cyanobacteria
Effective dose :	2,8 mg/l
Exposure time :	7 day(s)

12.2 Persistence and degradability
No information available.

12.3 Bioaccumulative potential

Parameter :	Log KOW (Chloral hydrate ; CAS No. : 302-17-0)
	Partition coefficient n-octanol/water (log value)

Value : 0,99

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation. Follow the provisions of Directive 2008/98/EC regarding waste management.

Product/Packaging disposal

Waste treatment options

Recycle according to official regulations. Evidence for disposal must be provided.

Appropriate disposal / Product

Dispose of waste according to applicable legislation.

Appropriate disposal / Package

Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

14.1 UN number

UN 2811

14.2 UN proper shipping name

Land transport (ADR/RID)

TOXIC SOLID, ORGANIC, N.O.S. (Chloral hydrate)

Sea transport (IMDG)

TOXIC SOLID, ORGANIC, N.O.S. (Chloral hydrate)

Air transport (ICAO-TI / IATA-DGR)

TOXIC SOLID, ORGANIC, N.O.S. (Chloral hydrate)

14.3 Transport hazard class(es)

Land transport (ADR/RID)

Class(es) :	6.1
Classification code :	T2
Hazard identification number (Kemler No.) :	60
Tunnel restriction code :	E
Special provisions :	LQ 5 kg · E 1

Hazard label(s) : 6.1

Sea transport (IMDG)
Class(es) : 6.1
EmS-No. : F-A / S-A
Special provisions : LQ 5 kg · E 1
Hazard label(s) : 6.1

Air transport (ICAO-TI / IATA-DGR)
Class(es) : 6.1
Special provisions : E 1
Hazard label(s) : 6.1

14.4 Packing group
III

14.5 Environmental hazards
Land transport (ADR/RID) : No
Sea transport (IMDG) : No
Air transport (ICAO-TI / IATA-DGR) : No

14.6 Special precautions for user
Hazard label(s) :

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
No information available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Safety Data Sheet According to Regulation (EC) No. 1907/2006 (REACH) Classification according to Regulation (EC) No 1272/2008 [CLP] according to Regulation (EU) No. 2020/878

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]

Hazard categories	H2 - ACUTE TOXIC 2
Lower-tier requirements (t)	50
Upper-tier requirements (t)	200

EU legislation
Authorisations and/or restrictions on use
Restrictions on use
Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)
Use restriction according to REACH annex XVII, no. : 3

National regulations
Water hazard class
Class : nwg (Non-hazardous to water)

15.2 Chemical Safety Assessment
No information available.

SECTION 16: Other information

16.1 Indication of changes

None

16.2 Abbreviations and acronyms

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM:	ASTM International, originally known as American Society for Testing and Materials (ASTM)
EINECS:	European Inventory of Existing Commercial Chemical Substances
EC50:	Effective Concentration 50 (Maximum Effective Concentration for 0% of Individuals)
LC50:	Lethal Concentration 50 (Lethal Concentration for 50% of Individuals)
IC50:	Inhibitor Concentration 50 (Inhibitory Concentration for 50% of Individuals)
NOEL:	No Observed Effect Level (Maximum dose without effect)
DNEL:	Derived No Effect Level (Derived no-effect dose)
DMEL:	Derived Minimum Effect Level (Derived dose of minimal effect)
CLP:	Classification, Labelling and Packaging
CSR:	Chemical Safety Report
LD50:	Lethal Dose 50 (Lethal Dose for 50% of Individuals)
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
Codice IMDG:	International Maritime Dangerous Goods code
PBT:	Persistent, bioaccumulative and toxic
RID:	Regulations concerning the international rail transport of Dangerous Goods
STEL:	Short term exposure limit
TLV:	Threshold limit value
TWA:	Time Weighted Average
UE:	European Union
vPvB:	Very persistent very bioaccumulative
N.D.:	Uvailable
N.A.:	Not applicable
VwVwS.:	Text of Administrative Regulation on the Classification of Substances hazardous to waters into Water Hazard Classes

16.3 Key literature references and sources for data

None

16.4 Relevant H- and EUH-phrases (Number and full text)

H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

16.5 Training advice

None

16.6 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of

mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.