Safety data sheet
according to 1907/2006/EC, Article 31

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

· **1.1 Product identifier**

· **Trade name: trichloromethane**

· **Article number:** 1252
· **CAS Number:**
67-66-3
· **EC number:**
200-663-8
· **Index number:**
602-006-00-4
· **Application of the substance / the mixture**
Chemical analytics
Solvents
Laboratory chemicals

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
PANREAC QUIMICA S.L.U.
C/Garraf 2
Polígono Pla de la Bruguera
E-08211 Castellar del Vallès (Barcelona)
Tel. (+34) 937 489 400
Fax. (+34) 937 489 401
e-mail: product.safety@panreac.com

· **Further information obtainable from:** email: product.safety@panreac.com
· **1.4 Emergency telephone number:**
Single telephone number for emergency calls: 112 (EU)
Tel.: (+34) 937 489 499

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 3	H331	Toxic if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Carc. 2	H351	Suspected of causing cancer.
Repr. 2	H361d	Suspected of damaging the unborn child.
STOT RE 1	H372	Causes damage to the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the GB CLP regulation.

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· **Hazard pictograms**

GHS06 GHS08

· **Signal word** Danger
· **Hazard statements**
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H372 Causes damage to the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.
· **Precautionary statements**
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.1 Substances**
· **CAS No. Description**
67-66-3 trichloromethane
· **Identification number(s)**
· **EC number:** 200-663-8
· **Index number:** 602-006-00-4

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
Involve doctor immediately.
· **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
· **After skin contact:**
Call a doctor immediately.
Immediately wash with water and soap and rinse thoroughly.

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· **After eye contact:** Call a doctor immediately.
· **After swallowing:**
Risk of aspiration!
Subsequently administer:
activated charcoal (20 - 40 g in 10 % slurry)
Call a doctor immediately.
· **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
If swallowed, gastric irrigation with added, activated carbon.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)
Phosgene gas
Non-combustible.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Mouth respiratory protective device.
Wear self-contained respiratory protective device.
· **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Contain escaping vapours with water.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid substance contact.
Do not inhale steams/aerosols.
· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Clean up affected area.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:**
Keep respiratory protective device available.
The product is not flammable.

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· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep container tightly sealed.
Open receptacle only under localised extractor facilities.
Store receptacle in a well ventilated area.
Store under lock and key and with access restricted to technical experts or their assistants only.
· **Recommended storage temperature:** Room Temperature
· **Storage class:** 6.1 D
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
67-66-3 trichloromethane	
WEL	Long-term value: 9.9 mg/m³, 2 ppm Sk

· **DNELs**		
Dermal	Long-term - systemic effects, worker	0.94 mg/kg
Inhalative	Acute - systemic effects, worker	333 mg/m3
	Long-term - systemic effects, worker	2.5 mg/m3
	Long-term - local effects, worker	2.5 mg/m3
	Long-term - systemic effects, general population	0.18 mg/m3

· **PNECs**	
Aquatic compartment - freshwater	0.146 mg/L
Aquatic compartment - marine water	0.015 mg/L
Aquatic compartment - water, intermittent releases	0.133 mg/L
Aquatic compartment - sediment in freshwater	0.45 mg/kg
Aquatic compartment - sediment in marine water	0.09 mg/kg
Terrestrial compartment - soil	0.56 mg/kg
Sewage treatment plant	0.048 mg/L

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see item 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
· **Respiratory protection:**
Filter AX
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Use suitable respiratory protective device only when aerosol or mist is formed.

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· **Hand protection**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**
Fluorocarbon rubber (Viton)
Recommended thickness of the material: ≥ 0.7 mm
Value for the permeation: Level ≥ 480 min

· **As protection from splashes gloves made of the following materials are suitable:**
Butyl rubber, BR
Recommended thickness of the material: ≥ 0.7 mm
Value for the permeation: Level ≥ 10 min

· **Eye/face protection**

Tightly sealed goggles

· **Body protection:** Use protective suit.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	Fluid
· **Colour:**	Colourless
· **Odour:**	Sweetish
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	-64 °C
· **Boiling point or initial boiling point and boiling range**	62 °C
· **Flammability**	Not applicable.
· **Lower and upper explosion limit**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic at 20 °C:**	0.56 mPas
· **Solubility**	
· **water at 20 °C:**	8 g/l
· **Partition coefficient n-octanol/water (log value)**	1.97
· **Vapour pressure at 20 °C:**	211 hPa

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· **Density and/or relative density**	
· **Density at 20 °C:**	1.47 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **9.2 Other information**	
· **Appearance:**	
· **Form:**	Fluid
· **Important information on protection of health and environment, and on safety.**	
· **Auto-ignition temperature:**	Not determined.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Change in condition**	
· **Evaporation rate**	Not determined.
· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void
· **Aerosols**	Void
· **Oxidising gases**	Void
· **Gases under pressure**	Void
· **Flammable liquids**	Void
· **Flammable solids**	Void
· **Self-reactive substances and mixtures**	Void
· **Pyrophoric liquids**	Void
· **Pyrophoric solids**	Void
· **Self-heating substances and mixtures**	Void
· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	Void
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:**
Risk of explosion with:
alkali metals
alkaline earth metals
peroxides
fluorine
strong bases
Sodium hydroxide
alkali hydroxides
alcohols
organic nitro compounds
oxygen
nitrogen oxides
Amines

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ammonia
magnesium
metal alloys

· **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5
· **Additional information:**
heat-sensitive
light sensitive

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity**
Harmful if swallowed.
Toxic if inhaled.
· **LD/LC50 values relevant for classification:**
Quantitative data on the toxicological effect of this product are not available.

· Components	Type	Value	Species
Oral	LD50	908 mg/kg (rat)	
Dermal	LD50	3,980 mg/kg (rabbit)	
Inhalative	LC50/4 h	10,500 mg/l (rat)	

· **Skin corrosion/irritation** Causes skin irritation.
· **Serious eye damage/irritation** Causes serious eye irritation.
· **After inhalation:** Irritant to skin and mucous membranes.
· **Carcinogenicity** Suspected of causing cancer.
· **Reproductive toxicity** Suspected of damaging the unborn child.
· **STOT-repeated exposure**
Causes damage to the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.
· **11.2 Information on other hazards**
· **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** Harmfull effect on aquatic organisms.

· Type of test	Effective concentration	Method	Assessment
EC50/72 h	13.3 mg/l (Algae)		
EC50/48 h	152.5 mg/l (daphnia magna)		
LC50/48 h	29 mg/l (daphnia magna)		
LC50/96 h	18 mg/l (fish)		

· **12.2 Persistence and degradability** Not easily biodegradable
· **12.3 Bioaccumulative potential**
Due to the distribution coefficient n-octanol/water a worth-mentioning accumulation in organisms is not expected.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water

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Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:**
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1888
· **14.2 UN proper shipping name**	
· **ADR, IMDG, IATA**	CHLOROFORM
· **14.3 Transport hazard class(es)**	
· **ADR**	
	
· **Class**	6.1 (T1) Toxic substances.
· **Label**	6.1
· **IMDG, IATA**	
	
· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Toxic substances.
· **Hazard identification number (Kemler code):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Stowage Code**	SW2 Clear of living quarters.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.

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· **Transport/Additional information:**

· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1888 CHLOROFORM, 6.1, III

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is not listed.
· **Seveso category** H2 ACUTE TOXIC
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**
· **Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (GB REACH)
PNEC: Predicted No-Effect Concentration (GB REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

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· *** Data compared to the previous version altered.**

Annex: Exposure scenario

· **Short title of the exposure scenario** Formulation and packing/repacking of substances and mixtures
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
· **Physical state** Fluid
· **Concentration of the substance in the mixture** Raw material.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** No special measures required.
· **Other operational conditions affecting worker exposure**
Avoid contact with eyes.
Avoid contact with the skin.
Do not breathe gas/vapour/aerosol.
· **Other operational conditions affecting consumer exposure** Keep out of the reach of children.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection**
· **Organisational protective measures** No special measures required.
· **Technical protective measures**
Ensure that suitable extractors are available on processing machines
· **Personal protective measures**
Do not inhale gases / fumes / aerosols.
Avoid contact with the skin.
Avoid contact with the eyes.
Pregnant women should strictly avoid inhalation or skin contact.
Tightly sealed goggles
Filter AX
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Use suitable respiratory protective device only when aerosol or mist is formed.
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Measures for consumer protection**
Ensure adequate labelling.
Keep locked up and out of the reach of children.
· **Environmental protection measures**
· **Water** No special measures required.
· **Disposal measures** Ensure that waste is collected and contained.
· **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.