

Safety data sheet
 according to UK REACH

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Printing date 22.07.2025

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Version number 3.05 (replaces version 3.04)

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

- **1.1 Product identifier**
- **Trade name:** Chlorobenzene / Acetic Acid 2:1
- **Article number:** 4856
- **Application of the substance / the mixture**
 Laboratory chemicals
 Biochemistry
- **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@itwreagents.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**

Flam. Liq. 3	H226 Flammable liquid and vapour.
Acute Tox. 4	H332 Harmful if inhaled.
Skin Corr. 1B	H314 Causes severe skin burns and eye damage.
Eye Dam. 1	H318 Causes serious eye damage.
Aquatic Chronic 2	H411 Toxic to aquatic life with long lasting effects.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
 The product is classified and labelled according to the GB CLP regulation.

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Trade name: Chlorobenzene / Acetic Acid 2:1

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· **Hazard pictograms**



GHS02 GHS05 GHS07 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**

chlorobenzene

Acetic acid

· **Hazard statements**

H226 Flammable liquid and vapour.

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see on this label).

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

· **3.2 Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 108-90-7 EINECS: 203-628-5 Reg.nr.: 01-2119432722-45-XXXX	chlorobenzene Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315	>50-<100%
CAS: 64-19-7 EINECS: 200-580-7 Reg.nr.: 01-2119475328-30-XXXX	Acetic acid Flam. Liq. 3, H226; Skin Corr. 1A, H314 Specific concentration limits: Skin Corr. 1A; H314: C ≥ 90% Skin Corr. 1B; H314: 25 % ≤ C < 90 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %	>30-≤40%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

GB

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Trade name: Chlorobenzene / Acetic Acid 2:1

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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.

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.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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.

Dab with polyethylene glycol 400.

Immediately wash with water and soap and rinse thoroughly.

Immediately remove any clothing soiled by the product.

· After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing:

make victim drink water (maximum of 2 drinking glasses)

Do not attempt to neutralize.

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

No further relevant information available.

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.

· For safety reasons unsuitable extinguishing agents: Water with full jet

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

Forms explosive mixtures with air at ambient temperatures.

Vapours are heavier than air and may spread along floors.

Beware of backfiring.

Forms explosive mixtures with air on intense heating.

· 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.

Trade name: Chlorobenzene / Acetic Acid 2:1

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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Avoid substance contact.
Do not inhale steams/aerosols.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
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).
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
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.
Prevent formation of aerosols.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.
- **Information about storage in one common storage facility:** Away from sources of ignition and heat.
- **Further information about storage conditions:**
Keep container tightly sealed.
Protect from heat and direct sunlight.
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:** 3
- **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:**

108-90-7 chlorobenzene

WEL	Short-term value: 14 mg/m ³ , 3 ppm Long-term value: 4.7 mg/m ³ , 1 ppm
Sk	

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Trade name: Chlorobenzene / Acetic Acid 2:1

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64-19-7 Acetic acid

WEL Short-term value: 50 mg/m³, 20 ppm
Long-term value: 25 mg/m³, 10 ppm

· **DNELs**

64-19-7 Acetic acid

Dermal	Acute - local effects, worker	25 mg/kg
Inhalative	Long-term - local effects, worker	25 mg/m ³
	Acute - local effects, general population	25 mg/m ³
	Long-term - local effects, general population	25 mg/m ³

· **PNECs**

64-19-7 Acetic acid

Aquatic compartment - freshwater	3.058 mg/L
Aquatic compartment - marine water	0.306 mg/L
Aquatic compartment - water, intermittent releases	30.58 mg/L
Aquatic compartment - sediment in freshwater	11.36 mg/kg
Aquatic compartment - sediment in marine water	1.136 mg/kg
Sewage treatment plant	85 mg/L
Ground	0.47 mg/kg

· **Ingredients with biological limit values:**

108-90-7 chlorobenzene

BMGV 5 mmol/mol creatinine
Medium: urin
Sampling time: Post shift
Parameter: 4-chlorocatechol

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

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see section 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.
Avoid contact with the eyes and skin.

· **Respiratory protection:**

Filter ABEK
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.

· **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be

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Trade name: Chlorobenzene / Acetic Acid 2:1

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checked prior to the application.

· **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 min

· **As protection from splashes 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 min

· **Eye/face protection**



Gauze goggles

· **Body protection:**

Use protective suit.

Flame retardant antistatic protective clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Physical state**

Liquid

· **Colour:**

Colourless

· **Odour:**

Pungent

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

Undetermined.

· **Boiling point or initial boiling point and boiling range**

Undetermined.

· **Flammability**

Not applicable.

Flammable.

· **Lower and upper explosion limit**

· **Lower:**

1.3 Vol %

· **Upper:**

16 Vol %

· **Flash point:**

24 °C

· **Auto-ignition temperature:**

463 °C

· **Decomposition temperature:**

Not determined.

· **pH at 20 °C**

<4

· **Viscosity:**

· **Kinematic viscosity**

Not determined.

· **Dynamic:**

Not determined.

· **Solubility**

· **water:**

No data available

· **Partition coefficient n-octanol/water (log value)**

Not determined.

· **Vapour pressure at 20 °C:**

16 hPa

· **Density and/or relative density**

· **Density:**

Not determined.

· **Relative density**

Not determined.

· **Vapour density**

Not determined.

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Trade name: Chlorobenzene / Acetic Acid 2:1

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- **9.2 Other information**
- **Appearance:**
- **Form:** Fluid
- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
- **Solvent content:**
- **Organic solvents:** 33.0 %
- **VOC (EC)** 33.00 %
- **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** Flammable liquid and vapour.
- **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:** No further relevant information available.
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if inhaled.

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Trade name: Chlorobenzene / Acetic Acid 2:1

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· **LD/LC50 values relevant for classification:**

Quantitative data on the toxicological effect of this product are not available.

Components	Type	Value	Species
ATE (Acute Toxicity Estimates)			
Inhalative	LC50/4 h	16.7 mg/l	

108-90-7 chlorobenzene

Oral	LD50	2,290 mg/kg (rat)	
Inhalative	LC50/4 h	11 mg/l (ATE)	

64-19-7 Acetic acid

Oral	LD50	3,310 mg/kg (rat)	
Inhalative	LC50/4 h	5,620 mg/l (mouse)	

· **Primary irritant effect:**

· **Skin corrosion/irritation** Causes severe skin burns and eye damage.

· **Serious eye damage/irritation** Causes serious eye damage.

· **After inhalation:** Strong caustic effect on skin and mucous membranes.

· **11.2 Information on other hazards**

· **Endocrine disrupting properties**

108-90-7	chlorobenzene	List II
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SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:** No further relevant information available.

Type of test	Effective concentration	Method	Assessment
108-90-7 chlorobenzene			
EC50	11.5 mg/l	(Bakterien)	
64-19-7 Acetic acid			
EC50/72 h	>300.8 mg/l	(Algae)	
EC50/24 h	>300.8 mg/l	(daphnia magna)	
LC50/96 h	>300.8 mg/l	(fish)	
NOEC/72 h	>300.8 mg/l	(Algae)	

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **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** For information on endocrine disrupting properties see section 11.

· **12.7 Other adverse effects**

· **Remark:** Toxic for fish

· **Additional ecological information:**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

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Trade name: Chlorobenzene / Acetic Acid 2:1

Toxic for aquatic organisms

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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** UN2924
- **14.2 UN proper shipping name**
- **ADR** FLAMMABLE LIQUID, CORROSIVE, N.O.S., ENVIRONMENTALLY HAZARDOUS
- **IMDG, IATA** FLAMMABLE LIQUID, CORROSIVE, N.O.S.
- **14.3 Transport hazard class(es)**
- **ADR**
-   
- **Class** 3 Flammable liquids.
- **Label** 3+8
- **IMDG**
-   
- **Class** 3 Flammable liquids.
- **Label** 3/8
- **IATA**
-  
- **Class** 3 Flammable liquids.
- **Label** 3 (8)
- **14.4 Packing group**
- **ADR, IMDG, IATA** III

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GB

Trade name: Chlorobenzene / Acetic Acid 2:1

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· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · EMS Number: · Stowage Category · Stowage Code	Warning: Flammable liquids. F-E,S-C A SW2 Clear of living quarters.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. 3 (8), III, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

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

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Directive 2012/18/EU**

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

E2 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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Trade name: Chlorobenzene / Acetic Acid 2:1

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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.

- **Relevant phrases**

H226 Flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H411 Toxic to aquatic life with long lasting effects.

- **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
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

- *** 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** The substance is main component.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** Use only on hard ground.
- **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** No special measures required.
- **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.

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Trade name: Chlorobenzene / Acetic Acid 2:1

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- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures**
Use product only in enclosed systems.
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.
Tightly sealed goggles
Filter ABEK
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.
- **Environmental protection measures**
- **Water**
Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.
Do not allow to reach sewage system.
- **Soil** Prevent contamination of soil.
- **Disposal measures**
Disposal must be made according to official regulations.
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.