

Creation Date 10-Dec-2009

Revision Date 22-Sep-2023

Revision Number 17

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

|                           |                                                              |
|---------------------------|--------------------------------------------------------------|
| Product Description:      | <b><u>Tetrachloroethylene</u></b>                            |
| Cat No. :                 | <b>167890000; 167890010; 167890025; 167891000; 167895000</b> |
| Synonyms                  | Perchloroethylene                                            |
| Index No                  | 602-028-00-4                                                 |
| CAS No                    | 127-18-4                                                     |
| EC No                     | 204-825-9                                                    |
| Molecular Formula         | C <sub>2</sub> Cl <sub>4</sub>                               |
| REACH registration number | -                                                            |

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

|                                |                                                                                             |
|--------------------------------|---------------------------------------------------------------------------------------------|
| Recommended Use                | Laboratory chemicals.                                                                       |
| Sector of use                  | SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites    |
| Product category               | PC21 - Laboratory chemicals                                                                 |
| Process categories             | PROC15 - Use as a laboratory reagent                                                        |
| Environmental release category | ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates) |
| Uses advised against           | No Information available                                                                    |

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

#### Company

**UK entity/business name**  
Fisher Scientific UK  
Bishop Meadow Road,  
Loughborough, Leicestershire LE11 5RG, United Kingdom

**EU entity/business name**  
Thermo Fisher Scientific  
Janssen Pharmaceuticaaan 3a, 2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Physical hazards

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Based on available data, the classification criteria are not met

## Health hazards

Skin Corrosion/Irritation  
Serious Eye Damage/Eye Irritation  
Skin Sensitization  
Carcinogenicity  
Specific target organ toxicity - (single exposure)

Category 2 (H315)  
Category 2 (H319)  
Category 1 (H317)  
Category 2 (H351)  
Category 3 (H336)

## Environmental hazards

Chronic aquatic toxicity

Category 2 (H411)

Full text of Hazard Statements: see section 16

## 2.2. Label elements



Signal Word

Warning

## Hazard Statements

H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H336 - May cause drowsiness or dizziness  
H351 - Suspected of causing cancer  
H411 - Toxic to aquatic life with long lasting effects

## Precautionary Statements

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P312 - Call a POISON CENTER or doctor if you feel unwell  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

## 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

Toxicity to Soil Dwelling Organisms

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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## 3.1. Substances

| Component           | CAS No   | EC No             | Weight % | CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567                                              |
|---------------------|----------|-------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------|
| Tetrachloroethylene | 127-18-4 | EEC No. 204-825-9 | <=100    | Skin Irrit. 2 (H315)<br>Skin Sens. 1 (H317)<br>Eye Irrit. 2 (H319)<br>STOT SE 3 (H336)<br>Carc. 2 (H351)<br>Aquatic Chronic 2 (H411) |

|                           |   |
|---------------------------|---|
| REACH registration number | - |
|---------------------------|---|

Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

|                                    |                                                                                                                                                  |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| General Advice                     | If symptoms persist, call a physician.                                                                                                           |
| Eye Contact                        | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.                                  |
| Skin Contact                       | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.                                |
| Ingestion                          | Clean mouth with water and drink afterwards plenty of water.                                                                                     |
| Inhalation                         | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.                                     |
| Self-Protection of the First Aider | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |

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

None reasonably foreseeable. May cause allergic skin reaction. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

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

|                    |                                                 |
|--------------------|-------------------------------------------------|
| Notes to Physician | Treat symptomatically. Symptoms may be delayed. |
|--------------------|-------------------------------------------------|

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.

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## Extinguishing media which must not be used for safety reasons

No information available.

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

Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated.

### Hazardous Combustion Products

Chlorine, Phosgene, Hydrogen chloride gas.

### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment as required. Ensure adequate ventilation.

### 6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.

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

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from sunlight.

Technical Rules for Hazardous Substances (TRGS) 510  
Storage Class (LGK) (Germany)

Class 10

### 7.3. Specific end use(s)

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Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s): **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC

| Component           | The United Kingdom                                                                                                       | European Union                                                                                                             | Ireland                                                                                                                    |
|---------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Tetrachloroethylene | STEL: 40 ppm 15 min<br>STEL: 275 mg/m <sup>3</sup> 15 min<br>TWA: 20 ppm 8 hr<br>TWA: 138 mg/m <sup>3</sup> 8 hr<br>Skin | TWA: 138 mg/m <sup>3</sup> (15min)<br>TWA: 20 ppm (15min)<br>STEL: 275 mg/m <sup>3</sup> (8h)<br>STEL: 40 ppm (8h)<br>Skin | TWA: 20 ppm 8 hr.<br>TWA: 138 mg/m <sup>3</sup> 8 hr.<br>STEL: 40 ppm 15 min<br>STEL: 275 mg/m <sup>3</sup> 15 min<br>Skin |

#### Biological limit values

List source(s):

#### Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

Workers; See table for values

#### Predicted No Effect Concentration (PNEC)

See values below.

| Component                                 | Fresh water      | Fresh water sediment                | Water Intermittent   | Microorganisms in sewage treatment | Soil (Agriculture)          |
|-------------------------------------------|------------------|-------------------------------------|----------------------|------------------------------------|-----------------------------|
| Tetrachloroethylene<br>127-18-4 ( <=100 ) | PNEC = 0.051mg/L | PNEC =<br>0.903mg/kg<br>sediment dw | PNEC =<br>0.0364mg/L | PNEC = 11.2mg/L                    | PNEC = 0.01mg/kg<br>soil dw |

| Component                                 | Marine water         | Marine water sediment                | Marine water intermittent | Food chain | Air                         |
|-------------------------------------------|----------------------|--------------------------------------|---------------------------|------------|-----------------------------|
| Tetrachloroethylene<br>127-18-4 ( <=100 ) | PNEC =<br>0.0051mg/L | PNEC =<br>0.0903mg/kg<br>sediment dw |                           |            | PNEC = 8.2µg/m <sup>3</sup> |

### 8.2. Exposure controls

#### Engineering Measures

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

#### Personal protective equipment

##### Eye Protection

Goggles (European standard - EN 166)

##### Hand Protection

Protective gloves

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| Glove material                  | Breakthrough time | Glove thickness        | EU standard | Glove comments                           |
|---------------------------------|-------------------|------------------------|-------------|------------------------------------------|
| Nitrile rubber                  | > 480 minutes     | 0.38 mm                | Level 6     | As tested under EN374-3 Determination of |
| Viton (R)                       | > 480 minutes     | 0.3 mm                 | EN 374      | Resistance to Permeation by Chemicals    |
| <b>Skin and body protection</b> |                   | Long sleeved clothing. |             |                                          |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

## Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

## Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387

## Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

When RPE is used a face piece Fit Test should be conducted

## Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

|                                                |                               |                                          |
|------------------------------------------------|-------------------------------|------------------------------------------|
| <b>Physical State</b>                          | Liquid                        |                                          |
| <b>Appearance</b>                              | Colorless                     |                                          |
| <b>Odor</b>                                    | Characteristic, sweet         |                                          |
| <b>Odor Threshold</b>                          | No data available             |                                          |
| <b>Melting Point/Range</b>                     | -22 °C / -7.6 °F              |                                          |
| <b>Softening Point</b>                         | No data available             |                                          |
| <b>Boiling Point/Range</b>                     | 120 - 122 °C / 248 - 251.6 °F | @ 760 mmHg                               |
| <b>Flammability (liquid)</b>                   | No data available             |                                          |
| <b>Flammability (solid,gas)</b>                | Not applicable                | Liquid                                   |
| <b>Explosion Limits</b>                        | No data available             |                                          |
| <b>Flash Point</b>                             | No information available      | <b>Method -</b> No information available |
| <b>Autoignition Temperature</b>                | No data available             |                                          |
| <b>Decomposition Temperature</b>               | > 150°C                       |                                          |
| <b>pH</b>                                      | No information available      |                                          |
| <b>Viscosity</b>                               | 0.89 mPa s at 20 °C           |                                          |
| <b>Water Solubility</b>                        | 0.15 g/L (20°C)               | practically insoluble                    |
| <b>Solubility in other solvents</b>            | No information available      |                                          |
| <b>Partition Coefficient (n-octanol/water)</b> |                               |                                          |
| <b>Component</b>                               | <b>log Pow</b>                |                                          |
| Tetrachloroethylene                            | 2.53                          |                                          |
| <b>Vapor Pressure</b>                          | 18 mbar @ 20 °C               |                                          |
| <b>Density / Specific Gravity</b>              | 1.625 1.619                   |                                          |

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|                          |                         |             |
|--------------------------|-------------------------|-------------|
| Bulk Density             | Not applicable          | Liquid      |
| Vapor Density            | No data available       | (Air = 1.0) |
| Particle characteristics | Not applicable (liquid) |             |

## 9.2. Other information

|                   |                   |
|-------------------|-------------------|
| Molecular Formula | C2 Cl4            |
| Molecular Weight  | 165.83            |
| Evaporation Rate  | 6.0 (Ether = 1.0) |

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

|                          |                                          |
|--------------------------|------------------------------------------|
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions      | None under normal processing.            |

### 10.4. Conditions to avoid

Incompatible products. Excess heat. Exposure to moist air or water.

### 10.5. Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases. Metals. Zinc. Amines. Aluminium.

### 10.6. Hazardous decomposition products

Chlorine. Phosgene. Hydrogen chloride gas.

## SECTION 11: TOXICOLOGICAL INFORMATION

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

#### Product Information

#### (a) acute toxicity;

|            |                   |
|------------|-------------------|
| Oral       | No data available |
| Dermal     | No data available |
| Inhalation | No data available |

| Component           | LD50 Oral                 | LD50 Dermal              | LC50 Inhalation              |
|---------------------|---------------------------|--------------------------|------------------------------|
| Tetrachloroethylene | LD50 = 2629 mg/kg ( Rat ) | LD50 > 10000 mg/kg (Rat) | LC50 = 27.8 mg/L ( Rat ) 4 h |

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

#### (d) respiratory or skin sensitization;

|             |                   |
|-------------|-------------------|
| Respiratory | No data available |
| Skin        | No data available |

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May cause sensitization by skin contact

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component           | EU | UK | Germany | IARC     |
|---------------------|----|----|---------|----------|
| Tetrachloroethylene |    |    | Cat. 2  | Group 2A |

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

Results / Target organs Central nervous system (CNS).

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Other Adverse Effects Tumorigenic effects have been reported in experimental animals.

Symptoms / effects, both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

## 11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Ecotoxicity effects

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component           | Freshwater Fish                                                                                                                                                                                                                                         | Water Flea                                       | Freshwater Algae                                        |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------|
| Tetrachloroethylene | LC50: 12.4 - 14.4 mg/L, 96h flow-through (Pimephales promelas)<br>LC50: 8.6 - 13.5 mg/L, 96h static (Pimephales promelas)<br>LC50: 11.0 - 15.0 mg/L, 96h static (Lepomis macrochirus)<br>LC50: 4.73 - 5.27 mg/L, 96h flow-through (Oncorhynchus mykiss) | EC50: 6.1 - 9.0 mg/L, 48h Static (Daphnia magna) | EC50: > 500 mg/L, 96h (Pseudokirchneriella subcapitata) |

| Component           | Microtox             | M-Factor |
|---------------------|----------------------|----------|
| Tetrachloroethylene | EC50 = 100 mg/L 24 h |          |

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|  |                                                  |  |
|--|--------------------------------------------------|--|
|  | EC50 = 112 mg/L 24 h<br>EC50 = 120.0 mg/L 30 min |  |
|--|--------------------------------------------------|--|

## 12.2. Persistence and degradability

|                                              |                                                                                                                 |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Persistence</b>                           | Insoluble in water, Persistence is unlikely, based on information available.                                    |
| <b>Degradation in sewage treatment plant</b> | Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. |

## 12.3. Bioaccumulative potential

May have some potential to bioaccumulate

| Component           | log Pow | Bioconcentration factor (BCF) |
|---------------------|---------|-------------------------------|
| Tetrachloroethylene | 2.53    | 25.8 - 77.1 dimensionless     |

## 12.4. Mobility in soil

Spillage unlikely to penetrate soil The product is insoluble and sinks in water The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces . Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility.

## 12.5. Results of PBT and vPvB assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

## 12.6. Endocrine disrupting properties

### Endocrine Disruptor Information

| Component           | EU - Endocrine Disruptors Candidate List | EU - Endocrine Disruptors - Evaluated Substances |
|---------------------|------------------------------------------|--------------------------------------------------|
| Tetrachloroethylene | Group II Chemical                        |                                                  |

## 12.7. Other adverse effects

**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

|                                            |                                                                                                                                                                                                      |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Waste from Residues/Unused Products</b> | Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.                               |
| <b>Contaminated Packaging</b>              | Dispose of this container to hazardous or special waste collection point.                                                                                                                            |
| <b>European Waste Catalogue (EWC)</b>      | According to the European Waste Catalog, Waste Codes are not product specific, but application specific.                                                                                             |
| <b>Other Information</b>                   | Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment. |

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

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**14.1. UN number** UN1897  
**14.2. UN proper shipping name** TETRACHLOROETHYLENE  
**14.3. Transport hazard class(es)** 6.1  
**14.4. Packing group** III

## ADR

**14.1. UN number** UN1897  
**14.2. UN proper shipping name** TETRACHLOROETHYLENE  
**14.3. Transport hazard class(es)** 6.1  
**14.4. Packing group** III

## IATA

**14.1. UN number** UN1897  
**14.2. UN proper shipping name** TETRACHLOROETHYLENE  
**14.3. Transport hazard class(es)** 6.1  
**14.4. Packing group** III

**14.5. Environmental hazards** Dangerous for the environment  
 Product is a marine pollutant according to the criteria set by IMDG/IMO

**14.6. Special precautions for user** No special precautions required.

**14.7. Maritime transport in bulk according to IMO instruments** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component           | CAS No   | EINECS    | ELINCS | NLP | IECSC | TCSI | KECL     | ENCS | ISHL |
|---------------------|----------|-----------|--------|-----|-------|------|----------|------|------|
| Tetrachloroethylene | 127-18-4 | 204-825-9 | -      | -   | X     | X    | KE-33294 | X    | X    |

| Component           | CAS No   | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|---------------------|----------|------|-----------------------------------------------|-----|------|------|-------|-------|
| Tetrachloroethylene | 127-18-4 | X    | ACTIVE                                        | X   | -    | X    | X     | X     |

**Legend:** X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### Authorisation/Restrictions according to EU REACH

| Component           | CAS No   | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---------------------|----------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Tetrachloroethylene | 127-18-4 | -                                                                   | Use restricted. See item 75. (see link for restriction details)               | -                                                                                                     |

#### REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

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## Seveso III Directive (2012/18/EC)

| Component           | CAS No   | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|---------------------|----------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Tetrachloroethylene | 127-18-4 | Not applicable                                                                            | Not applicable                                                                           |

**Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals**  
Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**  
Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

## National Regulations

**UK** - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

**WGK Classification** See table for values

| Component           | Germany - Water Classification (AwSV) | Germany - TA-Luft Class                              |
|---------------------|---------------------------------------|------------------------------------------------------|
| Tetrachloroethylene | WGK3                                  | Class I : 20 mg/m <sup>3</sup> (Massenkonzentration) |

| Component           | France - INRS (Tables of occupational diseases)            |
|---------------------|------------------------------------------------------------|
| Tetrachloroethylene | Tableaux des maladies professionnelles (TMP) - RG 3, RG 12 |

| Component                                 | Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81) | Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC) | Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Tetrachloroethylene<br>127-18-4 ( <=100 ) | Prohibited and Restricted Substances                                                                           | Group I                                                                         |                                                                                             |

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H336 - May cause drowsiness or dizziness  
H351 - Suspected of causing cancer  
H411 - Toxic to aquatic life with long lasting effects

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## Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

### **Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

### **Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

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**This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.**

### **Disclaimer**

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**End of Safety Data Sheet**