

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

### 1.1 Product identifier

**Product name** Castrol Chain Spray O-R  
**UFI:**  1V2-10HP-W009-TCA5  
**Product code** 450381-DE52  
**SDS #** 450381  
**Product type** Aerosol.

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

| Identified uses                                            |
|------------------------------------------------------------|
| Use of lubricants and greases in open systems-Professional |

C: Consumer use PC24: Lubricants, greases, release products

**Use of the substance/  
mixture** Aerosol. Chain lubricant.  
 For specific application advice see appropriate Technical Data Sheet or consult our company representative.

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

**Supplier** Castrol Holdings Europe B.V.,  
 d'Arcyweg 76, 3198NA  
 Europoort  
 Rotterdam  
  
 Castrol Denmark A/S  
 Kampmannsgade 2  
 1604 København  
 Denmark  
  
 +45 70 80 70 54  
**E-mail address** MSDSadvice@bp.com

### 1.4 Emergency telephone number

**EMERGENCY  
TELEPHONE NUMBER** Carechem: +44 (0) 1235 239 670 (24/7)  
**Latvia Poison Center** Call 112 when poisoning incidents occur and request Poison Information - around the clock.

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** Mixture  
**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**  
 Aerosol 1, H222, H229  
 Skin Irrit. 2, H315  
 Aquatic Chronic 3, H412  
 See Section 16 for the full text of the H statements declared above.  
 See sections 11 and 12 for more detailed information on health effects and symptoms and environmental hazards.

### 2.2 Label elements

**UFI:**  1V2-10HP-W009-TCA5  
**Hazard pictograms**



**Signal word** Danger

SECTION 2: Hazards identification

|                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hazard statements                                                                                                                  | H222, H229 - Extremely flammable aerosol. Pressurised container: may burst if heated.<br>H315 - Causes skin irritation.<br>H412 - Harmful to aquatic life with long lasting effects.                                                                                                                                                                   |
| Precautionary statements                                                                                                           |                                                                                                                                                                                                                                                                                                                                                        |
| General                                                                                                                            | P102 - Keep out of reach of children.<br>P101 - If medical advice is needed, have product container or label at hand.                                                                                                                                                                                                                                  |
| Prevention                                                                                                                         | P280 - Wear protective gloves.<br>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>P211 - Do not spray on an open flame or other ignition source.<br>P273 - Avoid release to the environment.<br>P264 - Wash hands thoroughly after handling.<br>P251 - Do not pierce or burn, even after use. |
| Response                                                                                                                           | P362 + P364 - Take off contaminated clothing and wash it before reuse.                                                                                                                                                                                                                                                                                 |
| Storage                                                                                                                            | P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.                                                                                                                                                                                                                                                             |
| Disposal                                                                                                                           | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.                                                                                                                                                                                                                               |
| Hazardous ingredients                                                                                                              | Not applicable.                                                                                                                                                                                                                                                                                                                                        |
| Supplemental label elements                                                                                                        | Not applicable.                                                                                                                                                                                                                                                                                                                                        |
| EU Regulation (EC) No. 1907/2006 (REACH)                                                                                           |                                                                                                                                                                                                                                                                                                                                                        |
| Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles | Not applicable.                                                                                                                                                                                                                                                                                                                                        |
| Special packaging requirements                                                                                                     |                                                                                                                                                                                                                                                                                                                                                        |
| Containers to be fitted with child-resistant fastenings                                                                            | Not applicable.                                                                                                                                                                                                                                                                                                                                        |
| Tactile warning of danger                                                                                                          | Not applicable.                                                                                                                                                                                                                                                                                                                                        |
| 2.3 Other hazards                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                        |
| Results of PBT and vPvB assessment                                                                                                 | Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.                                                                                                                                                                                                                                             |
| Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII                                  | This mixture does not contain any substances that are assessed to be a PBT or a vPvB.                                                                                                                                                                                                                                                                  |
| Other hazards which do not result in classification                                                                                | Solvent "sniffing" (abuse) or intentional overexposure to vapours can produce serious central nervous system effects, including unconsciousness, and possibly death.                                                                                                                                                                                   |

SECTION 3: Composition/information on ingredients

3.2 Mixtures

| Product definition                                                |                                                                                       | Mixture   |                                                                                                              |                                           |         |
|-------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------|
| Hydrocarbon solvent                                               |                                                                                       |           |                                                                                                              |                                           |         |
| Product/ingredient name                                           | Identifiers                                                                           | %         | Classification                                                                                               | Specific Conc. Limits, M-factors and ATEs | Type    |
| Butane                                                            | REACH #:<br>01-2119474691-32<br>EC: 203-448-7<br>CAS: 106-97-8<br>Index: 601-004-00-0 | ≥50 - ≤75 | Flam. Gas 1A, H220<br>Press. Gas (Comp.),<br>H280                                                            | -                                         | [2]     |
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | REACH #:<br>01-2119475514-35<br>EC: 921-024-6<br>CAS: -                               | ≥10 - ≤16 | Flam. Liq. 2, H225<br>Skin Irrit. 2, H315<br>STOT SE 3, H336<br>Asp. Tox. 1, H304<br>Aquatic Chronic 2, H411 | -                                         | [1] [2] |
| Propane                                                           | REACH #:<br>01-2119486944-21<br>EC: 200-827-9                                         | ≥10 - ≤25 | Flam. Gas 1A, H220<br>Press. Gas (Comp.),<br>H280                                                            | -                                         | [2]     |

|                        |                         |               |                 |          |          |
|------------------------|-------------------------|---------------|-----------------|----------|----------|
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| Version                | 4                       | Date of issue | 12 January 2025 | Format   | Latvia   |
| Date of previous issue | 5 December 2022.        |               |                 | Language | ENGLISH  |
|                        |                         |               |                 |          | (Latvia) |

**SECTION 3: Composition/information on ingredients**

|                                                     |                     |      |                         |   |         |
|-----------------------------------------------------|---------------------|------|-------------------------|---|---------|
| Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics | CAS: 74-98-6        |      |                         |   |         |
|                                                     | Index: 601-003-00-5 |      |                         |   |         |
|                                                     | REACH #:            | ≤3.4 | Flam. Liq. 2, H225      | - | [1] [2] |
|                                                     | 01-2119473851-33    |      | STOT SE 3, H336         |   |         |
| Isobutane                                           | EC: 920-750-0       |      | Asp. Tox. 1, H304       |   |         |
|                                                     | CAS: -              |      | Aquatic Chronic 2, H411 |   |         |
|                                                     | EC: 200-857-2       | ≤3   | Flam. Gas 1A, H220      | - | [2]     |
|                                                     | CAS: 75-28-5        |      | Press. Gas (Comp.),     |   |         |
|                                                     | Index: 601-004-00-0 |      | H280                    |   |         |

See Section 16 for the full text of the H statements declared above.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures****4.1 Description of first aid measures****Eye contact**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

**Skin contact**

Wash skin thoroughly with soap and water or use recognised skin cleanser. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear, must be discarded. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.

**Inhalation**

If inhaled, remove to fresh air. Get medical attention if symptoms occur.

**Ingestion**

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Poisoning very unlikely unless deliberate ingestion of large quantities has occurred. Get medical attention if symptoms occur.

**Protection of first-aiders**

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**Potential acute health effects****Inhalation**

Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.

**Ingestion**

Irritating to mouth, throat and stomach.

**Skin contact**

Causes skin irritation.

**Eye contact**

No known significant effects or critical hazards.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Inhalation**

Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

**Ingestion**

Ingestion of large quantities may cause nausea and diarrhoea.

**Skin contact**

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

**Eye contact**

Potential risk of transient stinging or redness if accidental eye contact occurs.

**4.3 Indication of any immediate medical attention and special treatment needed****Notes to physician**

Treatment should in general be symptomatic and directed to relieving any effects.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use foam or all-purpose dry chemical to extinguish.

**Unsuitable extinguishing media**

Do not use water jet. The use of a water jet may cause the fire to spread by splashing the burning product.

**5.2 Special hazards arising from the substance or mixture**

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**SECTION 5: Firefighting measures****Hazards from the substance or mixture**

Bursting aerosol containers may be propelled from a fire at high speed. Extremely flammable aerosol. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

**Hazardous combustion products**

Combustion products may include the following:  
carbon oxides (CO, CO<sub>2</sub>) (carbon monoxide, carbon dioxide)

**5.3 Advice for firefighters****Special precautions for fire-fighters**

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Special protective equipment for fire-fighters**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Eliminate all ignition sources. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilt material. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment.

**For emergency responders**

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions**

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

**6.3 Methods and material for containment and cleaning up****Small spill**

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

**Large spill**

Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

**6.4 Reference to other sections**

See Section 1 for emergency contact information.  
See Section 5 for firefighting measures.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 12 for environmental precautions.  
See Section 13 for additional waste treatment information.

**SECTION 7: Handling and storage**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**7.1 Precautions for safe handling****Protective measures**

Put on appropriate personal protective equipment. Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapour or mist. Avoid contact of spilt material and runoff with soil and surface waterways. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Keep away from ignition

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**SECTION 7: Handling and storage****Advice on general occupational hygiene**

sources such as heat/sparks/open flame. - No smoking. Do not spray on a naked flame or any incandescent material. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep away from heat and direct sunlight. Eliminate all ignition sources. Store and use only in equipment/containers designed for use with this product. Use appropriate containment to avoid environmental contamination.

**Not suitable**

Prolonged exposure to elevated temperature

**7.3 Specific end use(s)****Recommendations**

See section 1.2 and Exposure scenarios in annex, if applicable.

**SECTION 8: Exposure controls/personal protection**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**8.1 Control parameters****Occupational exposure limits**

| Product/ingredient name                                           | Exposure limit values                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Butane                                                            | <b>Ministers Cabinet Regulations Nr.325 - AER (Latvia).</b><br>TWA: 300 mg/m <sup>3</sup> 8 hours. Issued/Revised: 11/2004                                                                                                                                   |
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | <b>Ministers Cabinet Regulations Nr.325 - AER (Latvia). [Ogļūdeņraži, piesātinātie alifātiskie, C1-10]</b><br>TWA: 100 mg/m <sup>3</sup> , (as C) 8 hours. Issued/Revised: 2/2011<br>STEL: 300 mg/m <sup>3</sup> , (as C) 15 minutes. Issued/Revised: 2/2011 |
| Propane                                                           | <b>Ministers Cabinet Regulations Nr.325 - AER (Latvia). [Ogļūdeņraži, piesātinātie alifātiskie, C1-10]</b><br>TWA: 100 mg/m <sup>3</sup> , (as C) 8 hours. Issued/Revised: 2/2011<br>STEL: 300 mg/m <sup>3</sup> , (as C) 15 minutes. Issued/Revised: 2/2011 |
| Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics               | <b>Ministers Cabinet Regulations Nr.325 - AER (Latvia). [Ogļūdeņraži, piesātinātie alifātiskie, C1-10]</b><br>TWA: 100 mg/m <sup>3</sup> , (as C) 8 hours. Issued/Revised: 2/2011<br>STEL: 300 mg/m <sup>3</sup> , (as C) 15 minutes. Issued/Revised: 2/2011 |
| Isobutane                                                         | <b>Ministers Cabinet Regulations Nr.325 - AER (Latvia). [Ogļūdeņraži, piesātinātie alifātiskie, C1-10]</b><br>TWA: 100 mg/m <sup>3</sup> , (as C) 8 hours. Issued/Revised: 2/2011<br>STEL: 300 mg/m <sup>3</sup> , (as C) 15 minutes. Issued/Revised: 2/2011 |

Whilst specific OELs for certain components may be shown in this section, other components may be present in any mist, vapour or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

**Recommended monitoring procedures**

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Biological exposure indices**

| Product/ingredient name        | Exposure indices |
|--------------------------------|------------------|
| <b>Derived No Effect Level</b> |                  |

No DNELs/DMELs available.

**Predicted No Effect Concentration**

No PNECs available

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**SECTION 8: Exposure controls/personal protection****8.2 Exposure controls****Appropriate engineering controls**

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.

Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

**Individual protection measures****Hygiene measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

**Respiratory protection**

Respiratory protective equipment is not normally required where there is adequate natural or local exhaust ventilation to control exposure.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Respiratory protective equipment must be checked to ensure it fits correctly each time it is worn. In case of insufficient ventilation, wear suitable respiratory equipment.

Provided an air-filtering/air-purifying respirator is suitable, a multiple type of gas filter for organic gases and vapours (boiling point  $\leq 65^{\circ}\text{C}$  and  $> 65^{\circ}\text{C}$ ) can be used for vapour. Use filter types A with AX or comparable standard.

Provided an air-filtering/air-purifying respirator is suitable, a filter for particulates can be used. Use filter type P or comparable standard.

Air-filtering respirators, also called air-purifying respirators, will not be adequate under conditions of oxygen deficiency (i.e. low oxygen concentration), and would not be considered suitable where airborne concentrations of chemicals with a significant hazard are present. In these cases air-supplied breathing apparatus will be required.

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

**Eye/face protection**

Safety glasses with side shields.

**Skin protection****Hand protection****General Information:**

Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures).

Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions.

Wear suitable gloves.

Recommended: Nitrile gloves.

**Breakthrough time:**

Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account. Always consult with your glove supplier for up-to-date technical information on breakthrough times for the recommended glove type.

Our recommendations on the selection of gloves are as follows:

Continuous contact:

Gloves with a minimum breakthrough time of 240 minutes, or >480 minutes if suitable gloves can be obtained.

If suitable gloves are not available to offer that level of protection, gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to.

Short-term / splash protection:

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**SECTION 8: Exposure controls/personal protection**

Recommended breakthrough times as above.

It is recognised that for short-term, transient exposures, gloves with shorter breakthrough times may commonly be used. Therefore, appropriate maintenance and replacement regimes must be determined and rigorously followed.

**Glove Thickness:**

For general applications, we recommend gloves with a thickness typically greater than 0.35 mm.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

**Skin and body**

Use of protective clothing is good industrial practice.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

**Refer to standards:**

Respiratory protection: EN 529  
Gloves: EN 420, EN 374  
Eye protection: EN 166  
Filtering half-mask: EN 149  
Filtering half-mask with valve: EN 405  
Half-mask: EN 140 plus filter  
Full-face mask: EN 136 plus filter  
Particulate filters: EN 143  
Gas/combined filters: EN 14387

**Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

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

|                                                |                              |
|------------------------------------------------|------------------------------|
| <b>Physical state</b>                          | Aerosol.                     |
| <b>Colour</b>                                  | White.                       |
| <b>Odour</b>                                   | Characteristic.              |
| <b>Odour threshold</b>                         | Not available.               |
| <b>Melting point/freezing point</b>            | Not available.               |
| <b>Initial boiling point and boiling range</b> | Not available.               |
| <b>Flammability</b>                            | Not available.               |
| <b>Lower and upper explosion limit</b>         | Not available.               |
| <b>Flash point</b>                             | Closed cup: -82°C (-115.6°F) |

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**SECTION 9: Physical and chemical properties**

|                           |                 |
|---------------------------|-----------------|
| Auto-ignition temperature | Not available.  |
| Decomposition temperature | Not available.  |
| pH                        | Not applicable. |
| Kinematic viscosity       | Not available.  |
| Solubility                |                 |

| Media | Result      |
|-------|-------------|
| water | Not soluble |

|                                                   |                                                        |
|---------------------------------------------------|--------------------------------------------------------|
| Partition coefficient n-octanol/water (log value) | Not applicable.                                        |
| Vapour pressure                                   | ➤0.01 kPa                                              |
| Density and/or Relative density                   | 800 kg/m <sup>3</sup> (0.8 g/cm <sup>3</sup> ) at 20°C |
| Relative vapour density                           | Not available.                                         |
| Particle characteristics                          |                                                        |
| Median particle size                              | Not applicable.                                        |
| 9.2 Other information                             |                                                        |
| Evaporation rate                                  | Not available.                                         |
| Explosive properties                              | Not available.                                         |
| Oxidising properties                              | Not available.                                         |
| <u>Aerosol product</u>                            |                                                        |
| Type of aerosol                                   | Spray                                                  |
| Heat of combustion                                | 29.54 kJ/g                                             |

**SECTION 10: Stability and reactivity**

|                                         |                                                                                                                                                                         |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1 Reactivity                         | No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.                                   |
| 10.2 Chemical stability                 | The product is stable.                                                                                                                                                  |
| 10.3 Possibility of hazardous reactions | Under normal conditions of storage and use, hazardous reactions will not occur.<br>Under normal conditions of storage and use, hazardous polymerisation will not occur. |
| 10.4 Conditions to avoid                | Avoid all possible sources of ignition (spark or flame). High temperatures                                                                                              |
| 10.5 Incompatible materials             | Reactive or incompatible with the following materials: oxidising materials.                                                                                             |
| 10.6 Hazardous decomposition products   | Under normal conditions of storage and use, hazardous decomposition products should not be produced.                                                                    |

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**Acute toxicity

Not available.

Acute toxicity estimates

Not available.

Irritation/Corrosion

Not available.

Sensitiser

Not available.

GERM CELL MUTAGENICITY

Not available.

Carcinogenicity

Not available.

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**SECTION 11: Toxicological information****Reproductive toxicity**

Not available.

**Aspiration hazard**

| Product/ingredient name                 | Result                         |
|-----------------------------------------|--------------------------------|
| Naphtha (petroleum), hydrotreated light | ASPIRATION HAZARD - Category 1 |
| Naphtha (petroleum), hydrotreated light | ASPIRATION HAZARD - Category 1 |

**Conclusion/Summary**

Not classified. Based on available data, the classification criteria are not met.

**Conclusion/Summary**

Not available.

**Information on likely routes of exposure**

Routes of entry anticipated: Dermal, Inhalation, Eyes.

Routes of entry not anticipated: Oral.

**Potential acute health effects****Inhalation**

Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.

**Ingestion**

Irritating to mouth, throat and stomach.

**Skin contact**

Causes skin irritation.

**Eye contact**

No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics****Inhalation**Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

Exposure to high concentrations can cause dizziness, lightheadedness, headache, nausea and blurred vision. Higher levels may cause unconsciousness.

May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.

**Ingestion**

No specific data.

**Skin contact**Adverse symptoms may include the following:  
irritation  
redness**Eye contact**Adverse symptoms may include the following:  
pain or irritation  
watering  
redness**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Inhalation**

Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

**Ingestion**

Ingestion of large quantities may cause nausea and diarrhoea.

**Skin contact**

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

**Eye contact**

Potential risk of transient stinging or redness if accidental eye contact occurs.

**Potential chronic health effects****General**

No known significant effects or critical hazards.

**Carcinogenicity**

No known significant effects or critical hazards.

**Mutagenicity**

No known significant effects or critical hazards.

**Developmental effects**

No known significant effects or critical hazards.

**Fertility effects**

No known significant effects or critical hazards.

**11.2 Information on other hazards****11.2.1 Endocrine disrupting properties**

Not available.

**11.2.2 Other information**

Not available.

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

Not available.

**Environmental hazards**

Harmful to aquatic life with long lasting effects.

**12.2 Persistence and degradability**

Not expected to be rapidly degradable.

**12.3 Bioaccumulative potential**

This product is not expected to bioaccumulate through food chains in the environment.

| Product/ingredient name                                           | LogP <sub>ow</sub> | BCF | Potential |
|-------------------------------------------------------------------|--------------------|-----|-----------|
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | 2.2 to 5.2         | -   | Low       |
| Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics               | 2.2 to 5.2         | -   | Low       |

**12.4 Mobility in soil****Soil/water partition coefficient (K<sub>oc</sub>)**

Not available.

**Mobility**

Spillages may penetrate the soil causing ground water contamination.

**12.5 Results of PBT and vPvB assessment**

Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

**12.6 Endocrine disrupting properties**

Not available.

**Other ecological information**

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

**12.7 Other adverse effects**

No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**13.1 Waste treatment methods****Product****Methods of disposal**

Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

**Hazardous waste**

Yes.

**European waste catalogue (EWC)**

| Waste code | Waste designation                                                               |
|------------|---------------------------------------------------------------------------------|
| 16 05 04*  | gases in pressure containers (including halons) containing hazardous substances |

However, deviation from the intended use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user.

**Packaging****Methods of disposal**

Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

| Waste code | European waste catalogue (EWC)                                           |
|------------|--------------------------------------------------------------------------|
| 15 01 10*  | packaging containing residues of or contaminated by hazardous substances |

**Special precautions**

This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

**References**Commission 2014/955/EU  
Directive 2008/98/EC

|                               |                         |                      |                 |                 |         |
|-------------------------------|-------------------------|----------------------|-----------------|-----------------|---------|
| <b>Product name</b>           | Castrol Chain Spray O-R | <b>Product code</b>  | 450381-DE52     | <b>Page:</b>    | 10/16   |
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| <b>Date of previous issue</b> | 5 December 2022.        |                      |                 | <b>Language</b> | ENGLISH |
|                               |                         |                      | (Latvia)        |                 |         |

**SECTION 14: Transport information**

|                                 | ADR/RID                                                                                | ADN                                                                                    | IMDG                                                                                      | IATA                                                                                       |
|---------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 14.1 UN number or ID number     | UN1950                                                                                 | UN1950                                                                                 | UN1950                                                                                    | UN1950                                                                                     |
| 14.2 UN proper shipping name    | AEROSOLS                                                                               | AEROSOLS, flammable                                                                    | AEROSOLS                                                                                  | AEROSOLS, flammable                                                                        |
| 14.3 Transport hazard class(es) | 2<br> | 2<br> | 2.1<br> | 2.1<br> |
| 14.4 Packing group              | -                                                                                      | -                                                                                      | -                                                                                         | -                                                                                          |
| 14.5 Environmental hazards      | No.                                                                                    | No.                                                                                    | No.                                                                                       | No.                                                                                        |
| Additional information          | <u>Tunnel code</u> (D)                                                                 | -                                                                                      | <u>Emergency schedules</u><br>F-D, S-U                                                    | -                                                                                          |

14.6 Special precautions for user Not available.

ADR/RID Classification code: 5F

ADN Classification code: 5F

14.7 Maritime transport in bulk according to IMO instruments Not available.

**SECTION 15: Regulatory information**

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

| Product/ingredient name                                                                                     | %      | Designation [Usage] |
|-------------------------------------------------------------------------------------------------------------|--------|---------------------|
|  Castrol Chain Spray O-R | 95-100 | 3                   |
| di-"isononyl" phthalate                                                                                     | <1.0   | 52                  |

Labelling Not applicable.

Other regulations

REACH Status The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

United States inventory (TSCA 8b) At least one component is not listed.

Australia inventory (AIIIC) At least one component is not listed.

Canada inventory At least one component is not listed.

China inventory (IECSC) At least one component is not listed.

Japan inventory (CSCL) At least one component is not listed.

Korea inventory (KECI) At least one component is not listed.

Philippines inventory (PICCS) At least one component is not listed.

Taiwan Chemical Substances Inventory (TCSI) At least one component is not listed.

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## SECTION 15: Regulatory information

**Explosive precursors**

Not applicable.

**Aerosol dispensers**

3



Extremely flammable

**Ozone depleting substances (1005/2009/EU)**

Not listed.

**Prior Informed Consent (PIC) (649/2012/EU)**

Not listed.

**Persistent Organic Pollutants**

Not listed.

**EU - Water framework directive - Priority substances**

None of the components are listed.

**Seveso Directive**

This product is controlled under the Seveso Directive.

**Danger criteria**

**Category**

P3a

**15.2 Chemical safety assessment**

A Chemical Safety Assessment has been carried out for one or more of the substances within this mixture. A Chemical Safety Assessment has not been carried out for the mixture itself.

## SECTION 16: Other information

**Abbreviations and acronyms**

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 CSA = Chemical Safety Assessment  
 CSR = Chemical Safety Report  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EINECS = European Inventory of Existing Commercial chemical Substances  
 ES = Exposure Scenario  
 EUH statement = CLP-specific Hazard statement  
 EWC = European Waste Catalogue  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 OECD = Organisation for Economic Co-operation and Development  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 RRN = REACH Registration Number  
 SADT = Self-Accelerating Decomposition Temperature  
 SVHC = Substances of Very High Concern

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**SECTION 16: Other information**

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure  
 STOT-SE = Specific Target Organ Toxicity - Single Exposure  
 TWA = Time weighted average  
 UN = United Nations  
 UVCB = Complex hydrocarbon substance  
 VOC = Volatile Organic Compound  
 vPvB = Very Persistent and Very Bioaccumulative  
 Varies = may contain one or more of the following 64741-88-4 / RRN 01-2119488706-23,  
 64741-89-5 / RRN 01-2119487067-30, 64741-95-3 / RRN 01-2119487081-40, 64741-96-4 / RRN  
 01-2119483621-38, 64742-01-4 / RRN 01-2119488707-21, 64742-44-5 / RRN  
 01-2119985177-24, 64742-45-6, 64742-52-5 / RRN 01-2119467170-45, 64742-53-6 / RRN  
 01-2119480375-34, 64742-54-7 / RRN 01-2119484627-25, 64742-55-8 / RRN  
 01-2119487077-29, 64742-56-9 / RRN 01-2119480132-48, 64742-57-0 / RRN  
 01-2119489287-22, 64742-58-1, 64742-62-7 / RRN 01-2119480472-38, 64742-63-8,  
 64742-65-0 / RRN 01-2119471299-27, 64742-70-7 / RRN 01-2119487080-42, 72623-85-9 /  
 RRN 01-2119555262-43, 72623-86-0 / RRN 01-2119474878-16, 72623-87-1 / RRN  
 01-2119474889-13

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

| Classification                                                          | Justification                                                     |
|-------------------------------------------------------------------------|-------------------------------------------------------------------|
| Aerosol 1, H222, H229<br>Skin Irrit. 2, H315<br>Aquatic Chronic 3, H412 | On basis of test data<br>Calculation method<br>Calculation method |

**Full text of abbreviated H statements**

 H220  
 H225  
 H280  
 H304  
 H315  
 H336  
 H411  
 Extremely flammable gas.  
 Highly flammable liquid and vapour.  
 Contains gas under pressure; may explode if heated.  
 May be fatal if swallowed and enters airways.  
 Causes skin irritation.  
 May cause drowsiness or dizziness.  
 Toxic to aquatic life with long lasting effects.

**Full text of classifications [CLP/GHS]**

 Aquatic Chronic 2  
 Asp. Tox. 1  
 Flam. Gas 1A  
 Flam. Liq. 2  
 Press. Gas (Comp.)  
 Skin Irrit. 2  
 STOT SE 3  
 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2  
 ASPIRATION HAZARD - Category 1  
 FLAMMABLE GASES - Category 1A  
 FLAMMABLE LIQUIDS - Category 2  
 GASES UNDER PRESSURE - Compressed gas  
 SKIN CORROSION/IRRITATION - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

**History**

**Date of issue/ Date of revision** 12/01/2025.  
**Date of previous issue** 05/12/2022.  
**Prepared by** Product Stewardship Group

 Indicates information that has changed from previously issued version.

**Notice to reader**

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

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## Annex to the extended Safety Data Sheet (eSDS)

Professional

### Identification of the substance or mixture

|                    |                         |
|--------------------|-------------------------|
| Product definition | Mixture                 |
| Code               | 450381-DE52             |
| Product name       | Castrol Chain Spray O-R |

### Section 1: Title

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Short title of the exposure scenario | Use of lubricants and greases in open systems - Professional                                                                                                                                                                                                                                                                                                                                                                     |
| List of use descriptors              | <p><b>Identified use name:</b> Use of lubricants and greases in open systems-Professional</p> <p><b>Process Category:</b> PROC01, PROC02, PROC08a, PROC10, PROC11, PROC13</p> <p><b>Sector of end use:</b> SU22</p> <p><b>Subsequent service life relevant for that use:</b> No.</p> <p><b>Environmental Release Category:</b> ERC08a, ERC08d</p> <p><b>Specific Environmental Release Category:</b> ATIEL-ATC SPERC 8.Cp.v1</p> |

|                                                           |                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processes and activities covered by the exposure scenario | Covers use of lubricants and greases in open systems, including application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mould releases, corrosion protection, slideways. Includes associated product storage, material transfers, sampling and maintenance activities. |
| Assessment Method                                         | See Section 3                                                                                                                                                                                                                                                                                                                         |

### Section 2 Operational conditions and risk management measures

#### Section 2.1 Control of worker exposure

|                                              |                                                                                                                                      |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Physical state:                              | Liquid, vapour pressure < 0.5 kPa                                                                                                    |
| Amounts used:                                | Covers use of substance/product up to 100 % (unless stated differently)                                                              |
| Frequency and duration of use:               | Covers daily exposures up to 8 hours                                                                                                 |
| Other conditions affecting workers exposure: | Assumes use at not more than 20°C above ambient temperature.<br>Assumes a good basic standard of occupational hygiene is implemented |

#### Contributing scenarios: Operational conditions and risk management measures

General measures applicable to all activities:

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Use suitable eye protection. Avoid direct eye contact with product also via contamination on hands.

Material transfers

Manual: Avoid carrying out activities involving exposure for more than 1 hour per day.

Roller, spreader, flow application: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Avoid carrying out activities involving exposure for more than 4 hours per day. Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Spraying: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Avoid carrying out activities involving exposure for more than 1 hour per day. Wear a respirator conforming to EN140 with type A/P2 filter or better. Wear suitable coveralls to prevent exposure to the skin. Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Treatment by dipping and pouring: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Equipment cleaning and maintenance:

Drain down system prior to equipment break-in or maintenance. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Avoid carrying out activities involving exposure for more than 4 hours per day. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Storage:

**Castrol Chain Spray O-R**

**Use of lubricants and greases in open systems - Professional**



Store substance within a closed system.

## Section 2.2: Control of environmental exposure

|                                                                                                                                    |                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product characteristics:</b>                                                                                                    | Applicability domain: product in which the risk determining substance has the following hazard profile:<br>LogKow:<br>Vapour pressure:<br>PNEC Freshwater aquatic range (mg/L): |
| <b>Amounts used:</b>                                                                                                               | 2.24E+01 Tonnes/year                                                                                                                                                            |
| <b>Frequency and duration of use:</b>                                                                                              |                                                                                                                                                                                 |
| <b>Emission days</b>                                                                                                               | 365                                                                                                                                                                             |
| <b>Environment factors not influenced by risk management:</b>                                                                      |                                                                                                                                                                                 |
| <b>Local freshwater dilution factor</b>                                                                                            | 10                                                                                                                                                                              |
| <b>Local marine water dilution factor</b>                                                                                          | 100                                                                                                                                                                             |
| <b>Other conditions affecting environmental exposure:</b>                                                                          | Negligible wastewater emissions as process operates without water contact.                                                                                                      |
| <b>Release fraction to air (after typical onsite RMMs)</b>                                                                         | 1.00E-04                                                                                                                                                                        |
| <b>Release fraction to soil from process (after typical onsite RMMs)</b>                                                           | 1E-03                                                                                                                                                                           |
| <b>Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan)</b>                    | No data available yet                                                                                                                                                           |
| <b>Technical conditions and measures at process level (source) to prevent release:</b>                                             | Common practices vary across sites thus conservative process release estimates used.                                                                                            |
| <b>Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:</b>                | Prevent discharge of undissolved substance to or recover from onsite wastewater.                                                                                                |
| <b>Organisational measures to prevent/limit release from site:</b>                                                                 | Do not apply industrial sludge to natural soils.<br>Sewage sludge should be incinerated, contained or reclaimed.                                                                |
| <b>Conditions and measures related to sewage treatment plant:</b>                                                                  |                                                                                                                                                                                 |
| <b>Estimated substance removal from wastewater via on-site sewage treatment</b>                                                    | No data available yet                                                                                                                                                           |
| <b>Maximum allowable site tonnage (<math>M_{\text{Safe}}</math>) based on release following total wastewater treatment removal</b> | No data available yet                                                                                                                                                           |
| <b>Conditions and measures related to external treatment of waste for disposal:</b>                                                | External treatment and disposal of waste should comply with applicable local and/or national regulations.                                                                       |
| <b>Conditions and measures related to external recovery of waste:</b>                                                              | External recovery and recycling of waste should comply with applicable local and/or national regulations.                                                                       |

## Section 3: Exposure estimation and reference to its source

### Exposure estimation and reference to its source - Environment

**Exposure assessment (environment):** Used ECETOC TRA model (May 2010 release).

### Exposure estimation and reference to its source - Workers

**Exposure assessment (human):** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

## Section 4: Guidance to check compliance with the exposure scenario

## Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see [www.ATIEL.org/REACH\\_GES](http://www.ATIEL.org/REACH_GES)

## Health

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.