

SAFETY DATA SHEET**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Product name Syntilo 9954
UFI: PT1-70A1-E00Q-ENMU
Product code 458285-FR01
SDS # 458285
Product type Liquid.

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

Handling and dilution of metal working fluid concentrates-Industrial
 Use of lubricants in high energy open processes-Industrial
 Use of lubricants in high energy open processes-Professional

**Use of the substance/
mixture** Metalworking fluid - soluble.
 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 Lubricants UK Limited,
 Chertsey Road,
 Sunbury On Thames,
 Middlesex,
 TW16 7BP

 +44 (0)345 600 8125
E-mail address MSDSadvice@bp.com

1.4 Emergency telephone number

**EMERGENCY
TELEPHONE NUMBER** Carechem: +44 (0) 1235 239 670 (24/7)

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]

Skin Irrit. 2, H315
 Eye Irrit. 2, H319
 Repr. 1B, H360FD
 Aquatic Chronic 3, H412

Additional information LP: Not classified as hazardous when diluted below 9%

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: PT1-70A1-E00Q-ENMU

Hazard pictograms

Signal word Danger

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(UK)

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SECTION 2: Hazards identification

Hazard statements

H315 - Causes skin irritation.
 H319 - Causes serious eye irritation.
 H360FD - May damage fertility. May damage the unborn child.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201 - Obtain special instructions before use.
 P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.
 P273 - Avoid release to the environment.
 P264 - Wash hands thoroughly after handling.

Response

P308 + P313 - IF exposed or concerned: Get medical attention.
 P362 + P364 - Take off contaminated clothing and wash it before reuse.
 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.
 P337 + P313 - If eye irritation persists: Get medical attention.

Storage

Not applicable.

Disposal

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients

Sodium tetraborate decahydrate

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

Restricted to professional users.

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

Defatting to the skin.
 This product contains complex ionic mixtures within the fluid matrix which are an intrinsic part of the product and cannot be separated from the fluid matrix. Toxicology testing has shown the ionic-mixture containing products exhibit skin and eye irritation properties that are notably attenuated when compared to the individual acid and base components.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product definition

Mixture

Corrosion inhibitors and additives in aqueous solution.

| Product/ingredient name | Identifiers | % | Classification | Specific Conc. Limits, M-factors and ATEs | Type |
|----------------------------------|--|-----|--|---|---------|
| Octanoic acid | REACH #: 01-2119552491-41 EC: 204-677-5 CAS: 124-07-2 Index: 607-708-00-4 | ≤10 | Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412 | - | [1] |
| disodium tetraborate decahydrate | REACH #: 01-2119490790-32 EC: 215-540-4 | ≤5 | Eye Irrit. 2, H319 Repr. 1B, H360FD | - | [1] [2] |

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

| | | | | |
|---|--|-------|---|--|
| 3,5,5-trimethylhexanoic acid | CAS: 1303-96-4 Index: 005-011-01-1 REACH #: 01-2119517580-45 EC: 221-975-0 | ≤5 | Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 | ATE [Oral] = 500 mg/kg [1] |
| 2-aminoethanol | CAS: 3302-10-1 REACH #: 01-2119486455-28 EC: 205-483-3 CAS: 141-43-5 Index: 603-030-00-8 | ≤3 | Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 3, H412 | ATE [Oral] = 500 mg/kg [1] [2] ATE [Dermal] = 1100 mg/kg ATE [Inhalation (vapours)] = 11 mg/l STOT SE 3, H335: C ≥ 5% |
| 1,2-ethanediamine, N,N,N',N'-tetramethyl-, polymer with 1,1'-oxybis(2-chloroethane) | REACH #: Polymer CAS: 31075-24-8 | <0.25 | Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 | ATE [Oral] = 500 mg/kg [1] ATE [Inhalation (vapours)] = 11 mg/l M [Acute] = 10 M [Chronic] = 10 |
| Ethylene oxide | EC: 200-849-9 CAS: 75-21-8 Index: 603-023-00-X | <0.1 | Flam. Gas 1A, H220 Press. Gas (Comp.), H280 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1B, H350 STOT SE 3, H335 | ATE [Inhalation (vapours)] = 3 mg/l [1] [2] |
| 1,4-dioxane | EC: 204-661-8 CAS: 123-91-1 Index: 603-024-00-5 | <0.1 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 Carc. 1B, H350 STOT SE 3, H335 EUH019 EUH066 | - [1] [2] [3] |
| Propylene oxide | EC: 200-879-2 CAS: 75-56-9 Index: 603-055-00-4 | <0.1 | Flam. Liq. 1, H224 Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 3, H331 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1B, H350 STOT SE 3, H335 | ATE [Oral] = 520 mg/kg [1] [2] ATE [Dermal] = 300 mg/kg ATE [Inhalation (vapours)] = 3 mg/l |
| ethylene oxide | EC: 200-849-9 CAS: 75-21-8 Index: 603-023-00-X | <0.1 | Flam. Gas 1A, H220 Chem. Unst. Gas A, H230 Press. Gas (Comp.), H280 Acute Tox. 3, H301 Acute Tox. 3, H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Muta. 1B, H340 Carc. 1B, H350 Repr. 1B, H360Fd STOT SE 3, H335 STOT SE 3, H336 STOT RE 1, H372 | ATE [Oral] = 100 mg/kg [1] [2] ATE [Inhalation (vapours)] = 3 mg/l |
| 1,4-dioxane | EC: 204-661-8 CAS: 123-91-1 Index: 603-024-00-5 | <0.1 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 Carc. 1B, H350 STOT SE 3, H335 EUH019 EUH066 | - [1] [2] [3] |
| propylene oxide | EC: 200-879-2 CAS: 75-56-9 Index: 603-055-00-4 | <0.1 | Flam. Liq. 1, H224 Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 3, H331 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1B, H350 STOT SE 3, H335 | ATE [Oral] = 500 mg/kg [1] [2] ATE [Dermal] = 300 mg/kg ATE [Inhalation (vapours)] = 3 mg/l |

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SECTION 3: Composition/information on ingredients

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. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention. |
| Inhalation | <input checked="" type="checkbox"/> Inhaled, remove to fresh air. Get medical attention immediately. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Ingestion | <input checked="" type="checkbox"/> 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. Wash out mouth with water if person is conscious. Get medical attention immediately. |
| 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 | Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. |
| Ingestion | Irritating to mouth, throat and stomach. |
| Skin contact | Causes skin irritation. Defatting to the skin. |
| Eye contact | Causes serious eye irritation. |

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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
|---------------------------|---|

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

| | |
|--|--|
| Hazards from the substance or mixture | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Hazardous combustion products | Combustion products may include the following: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide) metal oxide/oxides nitrogen oxides (NO, NO ₂ etc.) |

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SECTION 5: Firefighting measures

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. 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Floors may be slippery; use care to avoid falling. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment.

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. 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. 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. 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. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid contact of spilt material and runoff with soil and surface waterways. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Empty containers retain product residue and can be hazardous. Avoid prolonged or repeated contact with skin. During metal working, solid particles from workpieces or tools will contaminate the fluid and may cause abrasions of the skin. Where such abrasions result in a penetration of the skin, first aid treatment should be applied as soon as reasonably possible. The presence of certain metals in the workpiece or tool, such as chromium, cobalt and nickel, can contaminate the metalworking fluid and as a result may induce allergic skin reactions. Evaporation of water from soluble cutting fluids during use may lead to an increase in concentration which may result in the development of skin conditions due to irritation and defatting. It is important to monitor fluid strength on a regular basis with a refractometer and maintain it at the recommended concentration. Lubricants from other sources and other

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SECTION 7: Handling and storage

Advice on general occupational hygiene

contaminants should be minimised. Swarf and other debris should be removed.
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 between the following temperatures: 5 to 40°C (41 to 104°F). Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Protect from freezing. Store locked up. Keep away from heat and direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store and use only in equipment/containers designed for use with this product. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

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 |
|----------------------------------|---|
| Disodium tetraborate decahydrate | EH40/2005 WELs (United Kingdom (UK)). TWA: 5 mg/m³ 8 hours. Issued/Revised: 1/1997 |
| 2-aminoethanol | EH40/2005 WELs (United Kingdom (UK)). Absorbed through skin. STEL: 7.6 mg/m³ 15 minutes. Issued/Revised: 10/2007 STEL: 3 ppm 15 minutes. Issued/Revised: 10/2007 TWA: 1 ppm 8 hours. Issued/Revised: 10/2007 TWA: 2.5 mg/m³ 8 hours. Issued/Revised: 10/2007 |

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

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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.

Derived No Effect Level

No DNELs/DMELs available.

Predicted No Effect Concentration

No PNECs available

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

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SECTION 8: Exposure controls/personal protection

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

In case of insufficient ventilation, wear suitable respiratory equipment.
 For protection against metal working fluids, respiratory protection that is classified as “resistant to oil” (class R) or oil proof (class P) should be selected where appropriate. Depending on the level of airborne contaminants, an air-purifying, half-mask respirator (with HEPA filter) including disposable (P- or R-series) (for oil mists less than 50mg/m3), or any powered, air-purifying respirator equipped with hood or helmet and HEPA filter (for oil mists less than 125 mg/m3). Where organic vapours are a potential hazard during metalworking operations, a combination particulate and organic vapour filter may be necessary.
 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:

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:

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SECTION 8: Exposure controls/personal protection

- 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

Appearance

| | |
|--|---|
| Physical state | Liquid. |
| Colour | Yellow. [Light] |
| Odour | Not available. |
| Odour threshold | Not available. |
| pH | 8.5 [Conc. (% w/w): 3%] |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | >100°C (>212°F) |
| Flash point | Closed cup: >100°C (>212°F) [Estimated. Water content interferes with flash point determination.] |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Lower and upper explosion limit | Not available. |
| Vapour pressure | Not available. |

| Ingredient name | Vapour Pressure at 20°C | | Vapour pressure at 50°C | | | |
|------------------------------|-------------------------|---------|-------------------------|-------|-----|--------|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| Water | 23.8 | 3.2 | | | | |
| 2,2',2"-nitrioltriethanol | <0.01 | <0.0013 | | | | |
| octanoic acid | 0 | 0 | | | | |
| 3,5,5-trimethylhexanoic acid | 0 | 0 | | | | |
| 2-aminoethanol | 0.4 | 0.053 | | | | |

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SECTION 9: Physical and chemical properties

| | |
|-------------------------|---|
| Relative vapour density | Not available. |
| Relative density | Not available. |
| Density | >1000 kg/m ³ (>1 g/cm ³) at 15°C |
| Solubility(ies) | |

| Media | Result |
|-------|---------|
| Water | Soluble |

Partition coefficient: n-octanol/water Not applicable.

| | | | | |
|---------------------------|--------------------------|-----------|-----------|---------------|
| Auto-ignition temperature | Ingredient name | °C | °F | Method |
| | 2,2,2'-nitrioltriethanol | 324 | 615.2 | |
| | octanoic acid | >300 | >572 | |
| | 2-aminoethanol | 410 | 770 | |

Decomposition temperature Not available.

Viscosity Kinematic: 200 mm²/s (200 cSt) at 40°C

Explosive properties Not available.

Oxidising properties Not available.

Particle characteristics

Median particle size Not applicable.

9.2 Other information

No additional information.

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. Under normal conditions of storage and use, hazardous polymerisation will not occur.

10.4 Conditions to avoid High temperatures

10.5 Incompatible materials Reactive or incompatible with the following materials: oxidising materials. Slightly reactive or incompatible with the following materials: acids.

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 estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| Syntilo 9954 | 8348.7 | 36752.7 | N/A | 367.5 | N/A |
| 3,5,5-trimethylhexanoic acid | 500 | N/A | N/A | N/A | N/A |
| 2-aminoethanol | 500 | 1100 | N/A | 11 | N/A |
| 1,2-ethanediamine, N,N,N',N'-tetramethyl-, polymer with 1,1'-oxybis(2-chloroethane) | 500 | N/A | N/A | 11 | N/A |

Information on likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

| | | |
|---|--------------------------------------|-----------------------------------|
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SECTION 11: Toxicological information

| | |
|---------------------|--|
| Ingestion | Irritating to mouth, throat and stomach. |
| Skin contact | Causes skin irritation. Defatting to the skin. |
| Eye contact | Causes serious eye irritation. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|---------------------|---|
| Inhalation | No specific data. |
| Ingestion | No specific data. |
| Skin contact | Adverse symptoms may include the following: irritation redness dryness cracking |
| 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 | <input checked="" type="checkbox"/> May damage the unborn child. |
| Fertility effects | <input checked="" type="checkbox"/> May damage fertility. |

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

Remarks - Endocrine Not available.

disrupting properties for human health Summary/ Conclusion (All ingredients)

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Environmental hazards Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Expected to be biodegradable.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.

Mobility Liquid. Soluble in water.

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.

| | | |
|---|--------------------------------------|--|
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SECTION 12: Ecological information

12.6 Endocrine disrupting properties Not available.

Remarks - Endocrine disrupting properties for environment Summary/ Conclusion (All ingredients) Not available.

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 Undiluted fluid Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations. Diluted Fluid The spent diluted fluid comprises a relatively stable emulsion. Dispose of via an authorised person/ licensed waste disposal contractor or by other suitable waste treatment techniques (e.g. emulsion splitting, coagulation and filtration) approved by the local authority. Spent fluid should never be disposed of down the drain. The aqueous phase should not be discharged into sewage systems unless provided for by local regulations; the non-aqueous phase should be disposed of as undiluted fluid. Note that separated aqueous solutions or effluents may contain metal salts as well as traces of oil and must be checked for conformity in these respects against consents given by the authorities before disposal. Further treatment may be required.

Hazardous waste Yes.

European waste catalogue (EWC)

| Waste code | Waste designation |
|------------|--|
| 12 01 10* | synthetic machining oils |
| 12 01 09* | machining emulsions and solutions free of halogens |

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 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty containers. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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

SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|--|----------------|----------------|----------------|----------------|
| 14.1 UN number or ID number | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| 14.2 UN proper shipping name | - | - | - | - |
| 14.3 Transport hazard class(es) | - | - | - | - |
| 14.4 Packing group | - | - | - | - |
| 14.5 Environmental hazards | No. | No. | No. | No. |

| | | |
|---|--------------------------------------|-----------------------------------|
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SECTION 14: Transport information

| | | | | |
|------------------------|---|---|---|---|
| Additional information | - | - | - | - |
|------------------------|---|---|---|---|

14.6 Special precautions for user Not available.

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

| Ingredient name | Intrinsic property | Status | Reference number | Date of revision |
|---|-----------------------|-------------|------------------|------------------|
| <input checked="" type="checkbox"/> Sodium tetraborate, anhydrous | Toxic to reproduction | Recommended | ED/69/2013 | 7/1/2015 |

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 Restricted to professional users.

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) All components are active or exempted.

Australia inventory (AIC) All components are listed or exempted.

Canada inventory All components are listed or exempted.

China inventory (IECSC) All components are listed or exempted.

Japan inventory (CSCL) All components are listed or exempted.

Korea inventory (KECI) All components are listed or exempted.

Philippines inventory (PICCS) All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI) All components are listed or exempted.

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 not controlled under the Seveso Directive.

| | | |
|---|--------------------------------------|--|
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SECTION 15: Regulatory information

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
 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 |
|--|--|
| Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 1B, H360FD Aquatic Chronic 3, H412 | Expert judgment Expert judgment Calculation method Calculation method |

Full text of abbreviated H statements

F220 Extremely flammable gas.
 H224 Extremely flammable liquid and vapour.
 H225 Highly flammable liquid and vapour.
 H230 May react explosively even in the absence of air.
 H280 Contains gas under pressure; may explode if heated.
 H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H311 Toxic in contact with skin.

| | | |
|---|--------------------------------------|-----------------------------------|
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SECTION 16: Other information

| | |
|--------------------|---|
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H340 | May cause genetic defects. |
| H350 | May cause cancer. |
| H360FD | May damage fertility. May damage the unborn child. |
| H360Fd | May damage fertility. Suspected of damaging the unborn child. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| EUH019 | May form explosive peroxides. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |
| Acute Tox. 3 | ACUTE TOXICITY - Category 3 |
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| Aquatic Acute 1 | SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 1 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 3 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 |
| Carc. 1B | CARCINOGENICITY - Category 1B |
| Chem. Unst. Gas A | CHEMICALLY UNSTABLE GASES - Category A |
| Eye Dam. 1 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 |
| Eye Irrit. 2 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
| Flam. Gas 1A | FLAMMABLE GASES - Category 1A |
| Flam. Liq. 1 | FLAMMABLE LIQUIDS - Category 1 |
| Flam. Liq. 2 | FLAMMABLE LIQUIDS - Category 2 |
| Muta. 1B | GERM CELL MUTAGENICITY - Category 1B |
| Press. Gas (Comp.) | GASES UNDER PRESSURE - Compressed gas |
| Repr. 1B | REPRODUCTIVE TOXICITY - Category 1B |
| Skin Corr. 1B | SKIN CORROSION/IRRITATION - Category 1B |
| Skin Corr. 1C | SKIN CORROSION/IRRITATION - Category 1C |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| STOT RE 1 | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1 |
| STOT SE 3 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |

Full text of classifications [CLP/GHS]

History

| | |
|--|---------------------|
| Date of issue/ Date of revision | 26/10/2022. |
| Date of previous issue | 27/07/2022. |
| Prepared by | Product Stewardship |

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.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

| | | |
|---|--------------------------------------|-----------------------------------|
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Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

| | |
|--------------------|--------------|
| Product definition | Mixture |
| Code | 458285-FR01 |
| Product name | Syntilo 9954 |

Section 1: Title

| | |
|--------------------------------------|---|
| Short title of the exposure scenario | Use of lubricants in high energy open processes - Professional |
| List of use descriptors | Identified use name: Use of lubricants in high energy open processes-Professional Process Category: PROC01, PROC02, PROC08a, PROC17 Sector of end use: SU22 Subsequent service life relevant for that use: No. Environmental Release Category: ERC08a Specific Environmental Release Category: ATIEL-ATC SpERC 8.7c.v1 |

| | |
|---|--|
| Processes and activities covered by the exposure scenario | Covers use of lubricants in high energy open processes, e.g. In high speed machinery such as metal rolling/forming or metal working fluids for machining and grinding. Includes associated product storage, material transfers, sampling and maintenance activities. |
|---|--|

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

| | |
|--|--|
| Physical state: | Liquid, vapour pressure < 0.5 kPa |
| Concentration of substance in product: | 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. Assumes a good basic standard of occupational hygiene is implemented |

Contributing scenarios: Operational conditions and risk management measures

General measures (carcinogens):

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation.

Drain down systems and clear transfer lines prior to breaking containment.

Clean/flush equipment, where possible, prior to maintenance.

Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely.

Ensure safe systems of work or equivalent arrangements are in place to manage risks.

Regularly inspect, test and maintain all control measures.

Consider the need for risk-based health surveillance.

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.

Filling of equipment from drums or containers:

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

Metal machining operations:

Provide extract ventilation to points where emissions occur.

Syntilo 9954

Use of lubricants in high energy open processes -
Professional

Operation and lubrication of high energy open equipment:
 Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 4 hours per day. Wear a respirator conforming to EN140 with type A filter or better. Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

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. Wear a respirator conforming to EN140 with type A filter or better. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Storage:
 Store substance within a closed system.

Section 2.2: Control of environmental exposure

Amounts used:

EU tonnage of risk determining substance per year: 2.05E+02 Tonnes/year

Frequency and duration of use:

Emission days 365

Environment factors not influenced by risk management:

Local freshwater dilution factor 10

Local marine water dilution factor 100

Other conditions affecting environmental exposure: Negligible wastewater emissions as process operates without water contact.

Release fraction to air (after typical onsite RMMs) 5.00E-05

Release fraction to soil from process (after typical onsite RMMs) 1E-03

Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan) Not available.

Technical conditions and measures at process level (source) to prevent release: Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil: Prevent discharge of undissolved substance to or recover from onsite wastewater.

Organisational measures to prevent/limit release from site: Do not apply industrial sludge to natural soils. Sewage sludge should be incinerated, contained or reclaimed.

Assumed domestic sewage treatment plant flow rate (m3/d) 2.00E+3

Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal as product: Not available.

Conditions and measures related to external treatment of waste for disposal: External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste: 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 |
| Health | Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. |

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

| | |
|--------------------|--------------|
| Product definition | Mixture |
| Code | 458285-FR01 |
| Product name | Syntilo 9954 |

Section 1: Title

| | |
|--------------------------------------|--|
| Short title of the exposure scenario | Handling and dilution of metal working fluid concentrates - Industrial |
| List of use descriptors | Identified use name: Handling and dilution of metal working fluid concentrates-Industrial Process Category: PROC01, PROC02, PROC08b, PROC05 Sector of end use: SU03 Subsequent service life relevant for that use: No. Environmental Release Category: ERC02 Specific Environmental Release Category: ATIEL-ATC SPERC 2.Ei.v1 |

| | |
|---|--|
| Processes and activities covered by the exposure scenario | Handling and dilution of metal working fluid concentrates. Includes associated product storage, material transfers, sampling and maintenance activities. |
|---|--|

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

| | |
|--|--|
| Physical state: | Liquid, vapour pressure < 0.5 kPa |
| Concentration of substance in product: | Covers daily exposures up to 8 hours |
| 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. Assumes a good basic standard of occupational hygiene is implemented |

Contributing scenarios: Operational conditions and risk management measures

General measures (carcinogens):

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation.

Drain down systems and clear transfer lines prior to breaking containment.

Clean/flush equipment, where possible, prior to maintenance.

Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely.

Ensure safe systems of work or equivalent arrangements are in place to manage risks.

Regularly inspect, test and maintain all control measures.

Consider the need for risk-based health surveillance.

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.

Filling of equipment from drums or containers:

Avoid carrying out activities involving exposure for more than 4 hours per day.

Process sampling:

Avoid carrying out activities involving exposure for more than 4 hours per day.

Equipment cleaning and maintenance:

Syntilo 9954

Handling and dilution of metal working fluid concentrates - Industrial

Drain down system prior to equipment break-in or maintenance. 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:
Store substance within a closed system.

Section 2.2: Control of environmental exposure

| | |
|--|---|
| Amounts used: | 3.02E+02 Tonnes/year |
| EU tonnage of risk determining substance per year: | 3.02E+02 Tonnes/year |
| Frequency and duration of use: | |
| Emission days | 300 |
| Environment factors not influenced by risk management: | |
| Local freshwater dilution factor | 10 |
| Local marine water dilution factor | 100 |
| Other conditions affecting environmental exposure: | Water-based (oil in water emulsion) or straight oil (contains no water) process |
| Release fraction to air (after typical onsite RMMs) | 5.00E-05 |
| Release fraction to soil from process (after typical onsite RMMs) | 0 |
| Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan) | No data available yet |
| Technical conditions and measures at process level (source) to prevent release: | Common practices vary across sites thus conservative process release estimates used. |
| Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil: | Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and waste water to be discharged via a sewage treatment plant |
| Organisational measures to prevent/limit release from site: | Do not apply industrial sludge to natural soils. Sewage sludge should be incinerated, contained or reclaimed. |
| Conditions and measures related to sewage treatment plant: | |
| Estimated substance removal from wastewater via on-site sewage treatment | No data available yet |
| Assumed domestic sewage treatment plant flow rate (m³/d) | 2.00E+3 |
| Maximum allowable site tonnage (M_{safe}) based on release following total wastewater treatment removal as product: | No data available yet |
| Conditions and measures related to external treatment of waste for disposal: | External treatment and disposal of waste should comply with applicable local and/or national regulations. |
| Conditions and measures related to external recovery of waste: | 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

Health

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

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

| | |
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| Product definition | Mixture |
| Code | 458285-FR01 |
| Product name | Syntilo 9954 |

Section 1: Title

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| Short title of the exposure scenario | Use of lubricants in high energy open processes - Industrial |
| List of use descriptors | Identified use name: Use of lubricants in high energy open processes-Industrial Process Category: PROC01, PROC02, PROC08b, PROC17 Sector of end use: SU03 Subsequent service life relevant for that use: No. Environmental Release Category: ERC04 Specific Environmental Release Category: ATIEL-ATC SPERC 4.Fi.v1 |

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| Processes and activities covered by the exposure scenario | Covers use of lubricants in high energy open processes, e.g. In high speed machinery such as metal rolling/forming or metal working fluids for machining and grinding. Includes associated product storage, material transfers, sampling and maintenance activities. |
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Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

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| Physical state: | Liquid, vapour pressure < 0.5 kPa |
| Concentration of substance in product: | 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. Assumes a good basic standard of occupational hygiene is implemented |

Contributing scenarios: Operational conditions and risk management measures

General measures (carcinogens):

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation.

Drain down systems and clear transfer lines prior to breaking containment.

Clean/flush equipment, where possible, prior to maintenance.

Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely.

Ensure safe systems of work or equivalent arrangements are in place to manage risks.

Regularly inspect, test and maintain all control measures.

Consider the need for risk-based health surveillance.

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.

Filling of equipment from drums or containers:

No specific measures identified.

Metal machining operations:

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Operation and lubrication of high energy open equipment:
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Automated metal rolling/forming Use in contained systems Operation is carried out at elevated temperature (> 20°C above ambient temperature):
No other specific measures identified.

Semi-automated metal rolling/forming Open systems Operation is carried out at elevated temperature (> 20°C above ambient temperature):
Provide extract ventilation to points where emissions occur.

Equipment cleaning and maintenance:
Drain down system prior to equipment break-in or maintenance. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
Storage:
Store substance within a closed system.

Section 2.2: Control of environmental exposure

Amounts used:

EU tonnage of risk determining substance per year: 2.05E+02 Tonnes/year

Frequency and duration of use:

Emission days 300

Environment factors not influenced by risk management:

Local freshwater dilution factor 10

Local marine water dilution factor 100

Other conditions affecting environmental exposure: Water-based (oil in water emulsion) or straight oil (contains no water) process

Release fraction to air (after typical onsite RMMs) 5.00E-05

Release fraction to soil from process (after typical onsite RMMs) 0

Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan) Not available.

Technical conditions and measures at process level (source) to prevent release: Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil: Prevent discharge of undissolved substance to or recover from onsite wastewater.
User sites are assumed to be provided with oil/water separators and waste water to be discharged via a sewage treatment plant

Organisational measures to prevent/limit release from site: Do not apply industrial sludge to natural soils.
Sewage sludge should be incinerated, contained or reclaimed.

Assumed domestic sewage treatment plant flow rate (m³/d) 2.00E+3

Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal as product: Not available.

Conditions and measures related to external treatment of waste for disposal: External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste: 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

Health

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