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

*Printing date 29.11.2023* *Version number 6 (replaces version 5)* *Revision: 29.11.2023*

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

· **1.1 Product identifier**

· **Trade name: Soluene-350**

· **Article number:** 6003038
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Application of the substance / the mixture** Laboratory chemicals

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Revvity Health Sciences B.V.
Rigaweg 22
9723 TH Groningen
The Netherlands
Phone: 0031 50 5445900
www.revvity.com

· **Further information obtainable from:**
Quality Assurance, Environment, Safety & Health (QA/ESH)
SDS.Groningen@revvity.com
· **1.4 Emergency telephone number:**
+31 50 5445971
CHEMTREC: +1 703-527-3887

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## SECTION 2: Hazards identification

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


flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.


health hazard

Repr. 2 H361d Suspected of damaging the unborn child.
STOT SE 2 H371 May cause damage to the central nervous system and the visual organs.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.


corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.


environment

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

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*Acute Tox. 4* *H302 Harmful if swallowed.*
*STOT SE 3* *H336 May cause drowsiness or dizziness.*

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

GHS02 GHS05 GHS07 GHS08 GHS09

· ***Signal word*** *Danger*

· ***Hazard-determining components of labelling:***
*Toluene*
*dodecyl(dimethyl)(tetradecyl)ammonium hydroxide*
*Methyltrioctylammonium chloride (Aliquat-336)*
*methanol*
· ***Hazard statements***
*H225 Highly flammable liquid and vapour.*
*H302 Harmful if swallowed.*
*H314 Causes severe skin burns and eye damage.*
*H361d Suspected of damaging the unborn child.*
*H371 May cause damage to the central nervous system and the visual organs.*
*H336 May cause drowsiness or dizziness.*
*H373 May cause damage to organs through prolonged or repeated exposure.*
*H410 Very toxic to aquatic life with long lasting effects.*
· ***Precautionary statements***
*P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*
*P260 Do not breathe dust/fume/gas/mist/vapours/spray.*
*P280 Wear protective gloves/protective clothing/eye protection/face protection.*
*P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*
*P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*
*P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*

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

· ***3.2 Mixtures***
· ***Description:*** *Mixture: consisting of the following components.*

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· ***Dangerous components:***

| | | |
|---|---|---|
| *CAS: 108-88-3*<br>*EINECS: 203-625-9*<br>*Index number: 601-021-00-3* | *Tolueen*<br>*Flam. Liq. 2, H225*<br>*Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304*<br>*Skin Irrit. 2, H315; STOT SE 3, H336* | *40-60%* |
| *CAS: 94199-93-6*<br>*EC number: 303-469-2* | *dodecyl(dimethyl)(tetradecyl)ammonium hydroxide*<br>*Skin Corr. 1B, H314*<br>*Aquatic Acute 1, H400; Aquatic Chronic 1, H410*<br>*Acute Tox. 4, H302* | *20-40%* |
| *CAS: 5137-55-3*<br>*EINECS: 225-896-2* | *Methyltrioctylammonium chloride (Aliquat-336)*<br>*Skin Corr. 1B, H314*<br>*Aquatic Acute 1, H400; Aquatic Chronic 1, H410*<br>*Acute Tox. 4, H302* | *2.5-10%* |
| *CAS: 67-56-1*<br>*EINECS: 200-659-6*<br>*Index number: 603-001-00-X* | *methanol*<br>*Flam. Liq. 2, H225*<br>*Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331*<br>*STOT SE 1, H370*<br>*Specific concentration limits: STOT SE 1; H370: C ≥ 10 %*<br>*STOT SE 2; H371: 3 % ≤ C < 10 %* | *2.5-10%* |

· ***Non-dangerous components***

| | | |
|---|---|---|
| *CAS: 7732-18-5*<br>*EINECS: 231-791-2* | *water, distilled, conductivity or of similar purity* | *2.5-10%* |

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

## *SECTION 4: First aid measures*

· ***4.1 Description of first aid measures***
· ***General information:***
*Immediately remove any clothing soiled by the product.*
*Remove breathing equipment only after contaminated clothing have been completely removed.*
*In case of irregular breathing or respiratory arrest provide artificial respiration.*
· ***After inhalation:***
*Supply fresh air or oxygen; call for doctor.*
*In case of unconsciousness place patient stably in side position for transportation.*
· ***After skin contact:*** *Immediately wash with water and soap and rinse thoroughly.*
· ***After eye contact:*** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
· ***After swallowing:***
*Do not induce vomiting; call for medical help immediately.*
*Drink plenty of water and provide fresh air. Call for a doctor immediately.*
· ***4.2 Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***4.3 Indication of any immediate medical attention and special treatment needed***
*No further relevant information available.*

## *SECTION 5: Firefighting measures*

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:***
*CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
· ***5.2 Special hazards arising from the substance or mixture*** *No further relevant information available.*

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· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Mouth respiratory protective device.*

## *SECTION 6: Accidental release measures*

· ***6.1 Personal precautions, protective equipment and emergency procedures***
*Wear protective equipment. Keep unprotected persons away.*
· ***6.2 Environmental precautions:***
*Prevent seepage into sewage system, workpits and cellars.*
*Dilute with plenty of water.*
*Do not allow to enter sewers/ surface or ground water.*
· ***6.3 Methods and material for containment and cleaning up:***
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).*
*Use neutralising agent.*
*Dispose contaminated material as waste according to section 13.*
*Ensure adequate ventilation.*
· ***6.4 Reference to other sections***
*See Section 7 for information on safe handling.*
*See Section 8 for information on personal protection equipment.*
*See Section 13 for disposal information.*

## *SECTION 7: Handling and storage*

· ***7.1 Precautions for safe handling***
*Ensure good ventilation/exhaustion at the workplace.*
*Open and handle receptacle with care.*
· ***Information about fire - and explosion protection:*** *Keep ignition sources away - Do not smoke.*

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** *Store in a cool location.*
· ***Information about storage in one common storage facility:*** *Not required.*
· ***Further information about storage conditions:***
*Keep receptacle tightly sealed.*
*Store in cool, dry conditions in well sealed receptacles.*
· ***7.3 Specific end use(s)*** *No further relevant information available.*

* 

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

· ***8.1 Control parameters***

| · ***Ingredients with limit values that require monitoring at the workplace:*** | |
|---|---|
| ***108-88-3 Toluene*** | |
| *WEL* | *Short-term value: 384 mg/m³, 100 ppm*<br>*Long-term value: 191 mg/m³, 50 ppm*<br>*Sk* |
| ***67-56-1 methanol*** | |
| *WEL* | *Short-term value: 333 mg/m³, 250 ppm*<br>*Long-term value: 266 mg/m³, 200 ppm*<br>*Sk* |

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

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

*Protective gloves*

*EN ISO 374-1/Type B*
· ***Material of gloves***
*Nitrile rubber, NBR*
*Recommended thickness of the material: ≥ 0.2 mm*
*Breakthrough time: > 120 minutes*
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*
· ***Penetration time of glove material***
*The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.*
· ***Eye/face protection***

*Tightly sealed goggles*

* 
## SECTION 9: Physical and chemical properties

| | |
|---|---|
| · ***9.1 Information on basic physical and chemical properties*** | |
| · ***General Information*** | |
| · ***Colour:*** | *Colourless* |
| · ***Odour:*** | *Characteristic* |
| · ***Boiling point or initial boiling point and boiling range*** | *110 °C (230 °F)* |
| · ***Lower and upper explosion limit*** | |
| · ***Lower:*** | *1.2 Vol % (108-88-3 Tolueen)* |
| · ***Upper:*** | *8 Vol % (108-88-3 Tolueen)* |
| · ***Flash point:*** | *6 °C (42.8 °F)* |
| · ***Auto-ignition temperature:*** | *550 °C (1,022 °F)* |
| · ***Solubility*** | |
| · ***water:*** | *Fully miscible.* |
| · ***Vapour pressure at 20 °C (68 °F):*** | *8 mmHg* |

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| | |
|---|---|
| · **Density and/or relative density** | |
| · **Density at 20 °C (68 °F):** | 0.870 g/cm³ (7.26015 lbs/gal) |
| · **9.2 Other information** | |
| · **Appearance:** | |
| · **Form:** | Fluid |
| · **Important information on protection of health and environment, and on safety.** | |
| · **Ignition temperature:** | Product is not selfigniting. |
| · **Explosive properties:** | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
| · **Information with regard to physical hazard classes** | |
| · **Explosives** | Void |
| · **Flammable gases** | Void |
| · **Aerosols** | Void |
| · **Oxidising gases** | Void |
| · **Gases under pressure** | Void |
| · **Flammable liquids** | Highly flammable liquid and vapour. |
| · **Flammable solids** | Void |
| · **Self-reactive substances and mixtures** | Void |
| · **Pyrophoric liquids** | Void |
| · **Pyrophoric solids** | Void |
| · **Self-heating substances and mixtures** | Void |
| · **Substances and mixtures, which emit flammable gases in contact with water** | Void |
| · **Oxidising liquids** | Void |
| · **Oxidising solids** | Void |
| · **Organic peroxides** | Void |
| · **Corrosive to metals** | Void |
| · **Desensitised explosives** | Void |

## SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:**
Nitrogen oxides
Carbon monoxide

* 

## SECTION 11: Toxicological information

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

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| · **LD/LC50 values relevant for classification:** | | |
|---|---|---|
| **ATE (Acute Toxicity Estimates)** | | |
| Oral | LD50 | 916 mg/kg |
| Dermal | LD50 | 6,000 mg/kg |
| Inhalative | LC50/4 h | 60 mg/l |

| **108-88-3 Tolueen** | | |
|---|---|---|
| Oral | LD50 | 5,000 mg/kg (rat) |
| Dermal | LD50 | 12,124 mg/kg (rab) |
| Inhalative | LC50/4 h | 5,320 mg/l (mouse) |

· **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
· **Serious eye damage/irritation**
Causes serious eye damage.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity**
Suspected of damaging the unborn child.
· **STOT-single exposure**
May cause damage to the central nervous system and the visual organs.
May cause drowsiness or dizziness.
· **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
· **Aspiration hazard** Based on available data, the classification criteria are not met.
· **11.2 Information on other hazards**

| · **Endocrine disrupting properties** |
|---|
| None of the ingredients is listed. |

* 
## SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Must not reach sewage water or drainage ditch undiluted or unneutralised.



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## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation** Must be specially treated adhering to official regulations.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## SECTION 14: Transport information

· **14.1 UN number or ID number**
· **ADR, IMDG, IATA** UN2924

· **14.2 UN proper shipping name**
· **ADR** 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (QUATERNARY AMMONIUM HYDROXIDE IN TOLUENE)
· **IMDG** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (QUATERNARY AMMONIUM HYDROXIDE IN TOLUENE)
· **IATA** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (QUATERNARY AMMONIUM HYDROXIDE IN TOLUENE)

· **14.3 Transport hazard class(es)**

· **ADR**

· **Class** 3 (FC) Flammable liquids.
· **Label** 3+8

· **IMDG**

· **Class** 3 Flammable liquids.
· **Label** 3/8

· **IATA**

· **Class** 3 Flammable liquids.
· **Label** 3 (8)

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| | |
|---|---|
| · ***14.4 Packing group*** | |
| · ***ADR, IMDG, IATA*** | *II* |
| · ***14.5 Environmental hazards:*** | |
| · ***Marine pollutant:*** | *No* |
| · ***Special marking (ADR):*** | *Symbol (fish and tree)* |
| · ***14.6 Special precautions for user*** | *Warning: Flammable liquids.* |
| · ***Hazard identification number (Kemler code):*** | *336* |
| · ***EMS Number:*** | *F-E,S-C* |
| · ***14.7 Maritime transport in bulk according to IMO instruments*** | *Not applicable.* |
| · ***Transport/Additional information:*** | |
| · ***ADR*** | |
| · ***Excepted quantities (EQ)*** | *Code: E2*<br>*Maximum net quantity per inner packaging: 30 ml*<br>*Maximum net quantity per outer packaging: 500 ml* |
| · ***Tunnel restriction code*** | *D/E* |
| · ***IMDG*** | |
| · ***Limited quantities (LQ)*** | *1L* |
| · ***Excepted quantities (EQ)*** | *Code: E2*<br>*Maximum net quantity per inner packaging: 30 ml*<br>*Maximum net quantity per outer packaging: 500 ml* |
| · ***UN "Model Regulation":*** | *UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., 3 (8), II* |

* 
## *SECTION 15: Regulatory information*

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

| · ***Regulated explosives precursors*** |
|---|
| *None of the ingredients is listed.* |
| · ***Regulated poisons*** |
| *None of the ingredients is listed.* |
| · ***Reportable explosives precursors*** |
| *None of the ingredients is listed.* |
| · ***Reportable poisons*** |
| *None of the ingredients is listed.* |

· ***Directive 2012/18/EU***
· ***Qualifying quantity (tonnes) for the application of lower-tier requirements*** *100 t*
· ***Qualifying quantity (tonnes) for the application of upper-tier requirements*** *200 t*
· ***15.2 Chemical safety assessment:*** *A Chemical Safety Assessment has not been carried out.*



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## SECTION 16: Other information

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

· ***Relevant phrases***
*H225 Highly flammable liquid and vapour.*
*H301 Toxic if swallowed.*
*H302 Harmful if swallowed.*
*H304 May be fatal if swallowed and enters airways.*
*H311 Toxic in contact with skin.*
*H314 Causes severe skin burns and eye damage.*
*H315 Causes skin irritation.*
*H331 Toxic if inhaled.*
*H336 May cause drowsiness or dizziness.*
*H361d Suspected of damaging the unborn child.*
*H370 Causes damage to organs.*
*H373 May cause damage to organs through prolonged or repeated exposure.*
*H400 Very toxic to aquatic life.*
*H410 Very toxic to aquatic life with long lasting effects.*

· ***Department issuing SDS:*** *Quality Assurance, Environment, Safety & Health (QA/ESH)*
· ***Contact:*** *SDS.Groningen@revvity.com*
· ***Abbreviations and acronyms:***
*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
*IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)*
*ICAO: International Civil Aviation Organisation*
*ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)*
*ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*
*IMDG: International Maritime Code for Dangerous Goods*
*IATA: International Air Transport Association*
*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*
*EINECS: European Inventory of Existing Commercial Chemical Substances*
*ELINCS: European List of Notified Chemical Substances*
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*
*LC50: Lethal concentration, 50 percent*
*LD50: Lethal dose, 50 percent*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*
*Flam. Liq. 2: Flammable liquids – Category 2*
*Acute Tox. 3: Acute toxicity – Category 3*
*Acute Tox. 4: Acute toxicity – Category 4*
*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*
*Repr. 2: Reproductive toxicity – Category 2*
*STOT SE 1: Specific target organ toxicity (single exposure) – Category 1*
*STOT SE 2: Specific target organ toxicity (single exposure) – Category 2*
*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
*Asp. Tox. 1: Aspiration hazard – Category 1*
*Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1*
*Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1*
· **** Data compared to the previous version altered.***