

SPIRIT 7000

SDS # : 086577

previous revision date : 2023/12/26

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

1.1 Product identifier

Product name : SPIRIT 7000
UFI : CQKX-R8EE-E00K-3NER

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

Identified uses
Cutting fluid Metalworking fluid Formulation additives, lubricants and greases - Industrial Use of lubricants in high energy open processes - Industrial Use of lubricants in high energy open processes - Professional

1.3 Details of the supplier of the safety data sheet

TotalEnergies Lubrifiants
562 Avenue du Parc de L'île
92029 Nanterre Cedex FRANCE
Tél: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 84 71
rm.msds-lubs@totalenergies.com

TotalEnergies Marketing Polska sp. z o.o.
Al. Jana Pawła II 80
00-175 Warszawa, Polska
Tel: +48 22 481 94 00
Fax: +48 22 481 94 01
ms.pl_reach@totalenergies.com

Contact

H.S.E

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : Emergency phone: +48 42 2538 400

Supplier

Telephone number : Emergency phone: +44 1235 239670

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 Sens. 1A, H317

Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

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

For more details about adverse physical, human health and environmental effects, see sections 9 to 12.

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 - May cause an allergic skin reaction.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : P273 - Avoid release to the environment.
P261 - Avoid breathing gas, vapor or spray.
P280 - Wear protective gloves.

Response : P362 + P364 - Take off contaminated clothing and wash it before reuse.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.

Storage : Not applicable.

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

Contains : Polysulfides, di-tert-dodecyl
3-iodo-2-propynyl butylcarbamate
sodium benzothiazol-2-yl sulphide
pyridine-2-thiol 1-oxide, sodium salt
1,2-benzisothiazol-3(2H)-one

Supplemental label elements : Toxic by eye contact.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Biocidal products regulation

Active substances

Ingredient name	%
2-phenylphenol (ISO)	0.99
3-iodo-2-propynyl butylcarbamate	0.24
pyridine-2-thiol 1-oxide, sodium salt	0.15
1,2-benzisothiazol-3(2H)-one	0.0485
3(2H)-Isothiazolone, 2-methyl-	0.0485

This product has been treated with one or more biocidal products to prevent micro-organisms development.

2.3 Other hazards

This mixture does not contain any substances that are assessed to be a PBT or a vPvB in a concentration $\geq 0,1 \%$.
This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACH Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

Other hazards which do not result in classification : Hazard of slipping on spilled product.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

: Mixture

Product/substance	Identifiers	% (w/w)	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Distillates (petroleum), hydrotreated light naphthenic	REACH #: 01-2119480375-34 EC: 265-156-6 CAS: 64742-53-6 Index: 649-466-00-2	$\geq 10 - \leq 25$	Asp. Tox. 1, H304	-	[1] [2]
2,2'-(methylinino)diethanol	REACH #: 01-2119488970-24 EC: 203-312-7 CAS: 105-59-9 Index: 603-079-00-5	≤ 3	Eye Irrit. 2, H319	-	[1]
Neutralized alkanolamine	-	≤ 3	Eye Irrit. 2, H319	-	[1]
Neutralized monoethanolamine in ionic mixtures with acids	EC: 205-483-3 CAS: 141-43-5	< 3	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	ATE [Oral] = 1089 mg/kg ATE [Dermal] = 1100 mg/kg ATE [Inhalation (dusts and mists)] = 1.5 mg/l	[1] [2]
Polysulfides, di-tert-dodecyl	REACH #: 01-2119540516-41 EC: 270-335-7 CAS: 68425-15-0	≤ 3	Skin Sens. 1B, H317	-	[1]
2-phenylphenol (ISO)	REACH #: 01-2119511183-53 EC: 201-993-5 CAS: 90-43-7 Index: 604-020-00-6	< 1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
3-iodo-2-propynyl butylcarbamate	EC: 259-627-5 CAS: 55406-53-6 Index: 616-212-00-7	≤ 0.3	Acute Tox. 4, H302 Acute Tox. 3, H331 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 1, H372 (larynx) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1056 mg/kg ATE [Inhalation (dusts and mists)] = 0.67 mg/l M [Acute] = 10 M [Chronic] = 1	[1]
sodium benzothiazol-2-yl	REACH #:	≤ 0.3	Met. Corr. 1, H290	M [Acute] = 1	[1]

sulphide	01-2119493018-35 EC: 219-660-8 CAS: 2492-26-4		Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Chronic] = 1	
pyridine-2-thiol 1-oxide, sodium salt	REACH #: 01-2119493385-28 EC: 223-296-5 CAS: 3811-73-2 Index: 613-344-00-7	≤0.19	Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT RE 1, H372 (nervous system) Aquatic Acute 1, H400 Aquatic Chronic 2, H411 EUH070	ATE [Oral] = 1208 mg/kg ATE [Dermal] = 790 mg/kg ATE [Inhalation (dusts and mists)] = 0.5 mg/l M [Acute] = 100	[1]
1,2-benzisothiazol-3(2H)-one	REACH #: 01-2120761540-60 EC: 220-120-9 CAS: 2634-33-5 Index: 613-088-00-6	<0.05	Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 450 mg/kg ATE [Inhalation (dusts and mists)] = 0.21 mg/l Skin Sens. 1A, H317: C ≥ 0.036% M [Acute] = 1 M [Chronic] = 1	[1]
3(2H)-Isothiazolone, 2-methyl-	REACH #: 01-2120764690-50 EC: 220-239-6 CAS: 2682-20-4	≤0.063	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 See Section 16 for the full text of the H statements declared above.	ATE [Oral] = 285.5 mg/kg ATE [Dermal] = 282 mg/kg ATE [Inhalation (dusts and mists)] = 0.11 mg/l Skin Sens. 1A, H317: C ≥ 0.0015% M [Acute] = 10 M [Chronic] = 1	[1]

Additional information : Mineral oil of petroleum origin. Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

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	: Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.
Skin contact	: Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Wash out mouth with water. Remove dentures if any. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Eye contact	:  systemic toxicity
Inhalation	: No specific data.
Skin contact	:  irritation redness dryness cracking
Ingestion	: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: 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.
Specific treatments	: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

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. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : carbon monoxide
carbon dioxide
nitrogen oxides
Sodium oxides
sulfur oxides
Hydrogen sulfide
Mercaptans

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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 : 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Avoid contact with eyes. Put on appropriate personal protective equipment.

For emergency responders : If specialized 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 spilled 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.

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. 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. Dispose of via a licensed waste disposal contractor.

- Large spill** : Stop leak if without risk. Move containers from spill area. Approach 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
See Section 10 for incompatible materials before handling or use.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. 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 original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. 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. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

- Recommendations** : See exposure scenarios
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/substance	Exposure limit values
Distillates (petroleum), hydrotreated light naphthenic	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 8/2023) [Highly refined mineral oils with the exception of cutting fluids] TWA 8 hours: 5 mg/m ³ . Form: Inhalable fraction.
Neutralized monoethanolamine in ionic mixtures with acids	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland,

8/2023) Absorbed through skin.
TWA 8 hours: 2.5 mg/m³.
STEL 15 minutes: 7.5 mg/m³.
EU OEL (Europe, 1/2022) Absorbed through skin.
TWA 8 hours: 2.5 mg/m³.
TWA 8 hours: 1 ppm.
STEL 15 minutes: 7.6 mg/m³.
STEL 15 minutes: 3 ppm.

Biological Limit Values (BLV)

No exposure indices known.

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.

Advisory OEL : Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m³, NIOSH (REL) TWA 5 mg/m³, STEL 10 mg/m³, ACGIH (TLV) TWA 5 mg/m³ (highly refined)

DNELs/DMELs

Product/substance	Type	Exposure	Value	Population	Effects
Distillates (petroleum), hydrotreated light naphthenic	DNEL	Long term Oral	0.74 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.97 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.19 mg/m ³	General population	Local
	DNEL	Long term Inhalation	2.73 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	5.58 mg/m ³	Workers	Local
	DNEL	Long term Dermal	0.03 mg/cm ²	General population	Local
	DNEL	Long term Dermal	0.05 mg/cm ²	Workers	Local
	DNEL	Long term Oral	0.13 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.4 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	0.67 mg/kg bw/day	General population	Systemic
2,2'-(methylinino)diethanol	DNEL	Long term Dermal	5.6 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	7.9 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	3.3 mg/m ³	Workers	Local
	DNEL	Long term Dermal	1 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	0.18 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	0.28 mg/m ³	General population	Local
Neutralized monoethanolamine in ionic mixtures with acids	DNEL	Long term Inhalation	0.51 mg/m ³	Workers	Local



2-phenylphenol (ISO)	DNEL	Long term Inhalation	1 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	1.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	3 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral	0.4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	1.2 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	400 µg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	19.25 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	21.84 mg/kg bw/day	Workers	Systemic
3-iodo-2-propynyl butylcarbamate	DNEL	Long term Inhalation	0.023 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	0.07 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	1.16 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	1.16 mg/m ³	Workers	Local
	DNEL	Long term Dermal	2 mg/kg bw/day	Workers	Systemic
sodium benzothiazol-2-yl sulphide	DNEL	Short term Oral	1.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	1.5 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	1.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1.5 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	2.5 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	2.5 mg/m ³	General population	Systemic
	DNEL	Short term Dermal	2.8 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	2.8 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	10 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	10 mg/m ³	Workers	Systemic
1,2-benzisothiazol-3(2H)-one	DNEL	Short term Inhalation	1 mg/m ³	General population	Local
	DNEL	Long term Inhalation	1 mg/m ³	General population	Local
	DNEL	Short term Inhalation	1 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	1 mg/m ³	Workers	Local
	DNEL	Long term Dermal	0.345 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.966 mg/kg bw/day	Workers	Systemic
	DNEL	Long term	1.2 mg/m ³	General	Systemic



3(2H)-Isothiazolone, 2-methyl-	DNEL	Inhalation Long term	6.81 mg/m ³	population Workers	Systemic
	DNEL	Inhalation Long term	0.021 mg/m ³	General population	Local
	DNEL	Inhalation Long term	0.021 mg/m ³	Workers	Local
	DNEL	Inhalation Long term Oral	0.027 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	0.043 mg/m ³	General population	Local
	DNEL	Short term Inhalation	0.043 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	0.053 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	0.053 mg/kg bw/day	General population	Systemic

PNECs

Product/ingredient name	Compartment Detail	Name	Method Detail
2,2'-(methylimino)diethanol	Fresh water	0.1 mg/l	-
	Marine water	0.0045 mg/l	-
	Fresh water sediment	0.78 mg/kg dwt	-
	Marine water sediment	0.0351 mg/kg dwt	-
	Soil	0.097 mg/kg dwt	-
	Sewage Treatment Plant	10 mg/kg dwt	-
	Fresh water sediment	0.36 mg/kg dwt	Equilibrium Partitioning
	Marine water sediment	0.036 mg/kg dwt	Equilibrium Partitioning
Neutralized monoethanolamine in ionic mixtures with acids	Soil	1.29 mg/kg dwt	Assessment Factors
	Sewage Treatment Plant	100 mg/l	Assessment Factors
	Fresh water	0.07 mg/l	Assessment Factors
	Marine water	0.007 mg/l	Assessment Factors
	Fresh water sediment	3.85 mg/kg dwt	-
	Marine water sediment	0.385 mg/kg dwt	-
	Sewage Treatment Plant	1000 mg/l	-
	Soil	2.5 mg/kg dwt	Assessment Factors
Polysulfides, di-tert-dodecyl	Fresh water	900 ng/l	Assessment Factors
	Marine water	90 ng/l	Assessment Factors
	Sewage Treatment Plant	0.56 mg/l	Assessment Factors
	Sediment	0.128 mg/kg dwt	Assessment Factors
	Marine water sediment	0.0128 mg/kg dwt	Assessment Factors
	Soil	2.5 mg/kg dwt	Assessment Factors
	Secondary Poisoning	1.87 mg/kg	Assessment Factors
	Fresh water	4.03 µg/l	Assessment Factors
2-phenylphenol (ISO)	Marine water	0.403 µg/l	Assessment Factors
	Sewage Treatment Plant	1.03 mg/l	Assessment Factors
	Sediment	49.9 µg/kg dwt	Equilibrium Partitioning
	Marine water sediment	4.99 µg/kg dwt	Equilibrium Partitioning
	Soil	3 mg/kg dwt	Assessment Factors
	Soil	0.0471 mg/kg	-
	Sewage Treatment Plant	0.23 mg/l	-
	Fresh water	0.00339 mg/l	-
1,2-benzisothiazol-3(2H)-one	Marine water	0.00339 mg/l	-
	Soil	0.0471 mg/kg	-
	Sewage Treatment Plant	0.23 mg/l	-
	Fresh water	0.00339 mg/l	-
	Marine water	0.00339 mg/l	-
	Soil	0.0471 mg/kg	-
	Sewage Treatment Plant	0.23 mg/l	-
	Fresh water	0.00339 mg/l	-
3(2H)-Isothiazolone, 2-methyl-	Marine water	0.00339 mg/l	-
	Soil	0.0471 mg/kg	-
	Sewage Treatment Plant	0.23 mg/l	-
	Fresh water	0.00339 mg/l	-
	Marine water	0.00339 mg/l	-
	Soil	0.0471 mg/kg	-
	Sewage Treatment Plant	0.23 mg/l	-
	Fresh water	0.00339 mg/l	-

8.2 Exposure controls



Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : safety glasses with side-shields, EN 166.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Hydrocarbon-proof gloves

nitrile rubber

neoprene

polyvinyl chloride (PVC)

Fluorinated rubber

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Neoprene gloves.

In case of prolonged contact with the product, it is recommended to wear gloves complying with ISO 21420 and EN 374 standards, protecting at least for 480 minutes and having a thickness of 0,38 mm at least. These values are indicative only. The level of protection is provided by the material of the glove, its technical characteristics, its resistance to the chemicals to be handled, the appropriateness of its use and its replacement frequency

Body protection : Wear work clothing with long sleeves.
Non-skid safety shoes or boots

Respiratory protection : Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces. In case of inadequate ventilation wear respiratory protection: Type A/P1. Warning ! filters have a limited use duration. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

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 (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

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

Physical state : Liquid. [limpid]

Color : Amber.

Odor : Characteristic.



pH	: 9.36 [Conc. (% w/w): 5%]
Melting point/freezing point	: Technically not possible to measure [EN ISO 3016]
Initial boiling point and boiling range	: >100°C [EN ISO 3405]
Flash point	: Open cup: >200°C [Cleveland Open Cup (COC)]
Flammability	: Not applicable.
Lower and upper explosion limit	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 0.967 [ISO 12185]
Density	: 0.967 g/cm ³ [15°C] [ISO 12185]
Solubility(ies)	:

Media	Result
water	Not soluble

Miscible with water	: No.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not applicable.
Viscosity	: ☒ Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): 53 mm ² /s [ISO 3104]

Particle characteristics

Median particle size	: Not applicable.
----------------------	-------------------

9.2 Other information

No other relevant physical and chemical parameters for the safe use of the product

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Stable under recommended storage and handling conditions (see Section 7).
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: ☒ No specific data.
10.5 Incompatible materials	: ☒ Strong oxidizing agents strong acids Strong bases

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

Product/substance	Result	Species	Dose	Exposure	Test
Distillates (petroleum), hydrotreated light naphthenic	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours	OECD 403
	LD50 Oral	Rat	>5000 mg/kg	-	OECD 402
	LD50 Oral	Rat	>5000 mg/kg	-	OECD 401
2,2'-(methylimino)diethanol	LD50 Dermal	Rabbit - Male, Female	10244 mg/kg	-	OECD 402
	LD50 Oral	Rat	4780 mg/kg	-	OECD 401
Neutralized alkanolamine	LD50 Dermal	Rat	>2000 mg/kg	-	-
	LD50 Oral	Rat	4800 mg/kg	-	-
Neutralized monoethanolamine in ionic mixtures with acids	LC50 Inhalation Dusts and mists	Rat	1.5 mg/l	4 hours	-
	LD50 Dermal	Rat - Male, Female	2504 mg/kg	-	OECD 402
	LD50 Oral	Rat - Male, Female	1089 mg/kg	-	OECD 401
Polysulfides, di-tert-dodecyl	LD50 Dermal	Rat	>2000 mg/kg	-	OECD 402
	LD50 Oral	Rat	>2500 mg/kg	-	TEPA and OECD
2-phenylphenol (ISO)	LD50 Dermal	Rabbit	>5000 mg/kg	-	-
	LD50 Dermal	Rat	>2000 mg/kg	-	OECD 402
	LD50 Oral	Rat	2700 mg/kg	-	Acute Dermal Toxicity
	LD50 Oral	Rat	2733 mg/kg	-	-
					OECD 401
					Acute Oral Toxicity
3-iodo-2-propynyl butylcarbamate	LC50 Inhalation Dusts and mists	Rat	0.67 mg/l	4 hours	-
	LD50 Dermal	Rabbit	2500 mg/kg	-	-
	LD50 Oral	Rat - Female	1056 mg/kg	-	-
sodium benzothiazol-2-yl sulphide	LD50 Dermal	Rabbit	7941 mg/kg	-	-
	LD50 Oral	Rat - Male	2100 mg/kg	-	-
pyridine-2-thiol 1-oxide, sodium salt	LC50 Inhalation Dusts and mists	Rat	1.08 mg/l	4 hours	-
	LD50 Oral	Rat	1208 mg/kg	-	OECD 401
1,2-benzisothiazol-3(2H)-one	LD50 Dermal	Rat	>2000 mg/kg	-	OECD 402
	LD50 Oral	Rat - Female	490 mg/kg	-	OECD 401
3(2H)-Isothiazolone, 2-methyl-	LC50 Inhalation Dusts and mists	Rat	0.11 mg/l	4 hours	OECD 403
					Acute Inhalation Toxicity
	LD50 Dermal	Rat	282 mg/kg	-	OECD 402
	LD50 Oral	Rat	285.5 mg/kg	-	OECD 401

Acute toxicity estimates

**TotalEnergies**

SPIRIT 7000

SDS # : 086577

Product/substance	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
SPIRIT 7000	36421.4	34387.2	N/A	N/A	37.7
2,2'-(methylimino)diethanol	4780	10244	N/A	N/A	N/A
Neutralized alkanolamine	4800	N/A	N/A	N/A	N/A
Neutralized monoethanolamine in ionic mixtures with acids	1089	1100	N/A	N/A	1.5
2-phenylphenol (ISO)	2700	N/A	N/A	N/A	N/A
3-iodo-2-propynyl butylcarbamate	1056	2500	N/A	N/A	0.67
sodium benzothiazol-2-yl sulphide	2100	7941	N/A	N/A	N/A
pyridine-2-thiol 1-oxide, sodium salt	1208	790	N/A	N/A	0.5
1,2-benzisothiazol-3(2H)-one	450	N/A	N/A	N/A	0.21
3(2H)-Isothiazolone, 2-methyl-	285.5	282	N/A	N/A	0.11

Conclusion/Summary : Based on available data, the classification criteria are not met.**Irritation/Corrosion**

Product/substance	Result	Species	Score	Exposure	Test
2,2'-(methylimino)diethanol	Eyes - Cornea opacity	Rabbit	1	-	OECD 405
	Eyes - Mild irritant	Rabbit	-	5 uL	-
	Skin - Erythema/Eschar	Rabbit	0	-	OECD 404
	Skin - Mild irritant	Rabbit	-	502 mg	-
Neutralized monoethanolamine in ionic mixtures with acids	Eyes - Severe irritant	Rabbit	-	250 ug	-
	Skin - Moderate irritant	Rabbit	-	505 mg	-
2-phenylphenol (ISO)	Eyes - Severe irritant	Rabbit	-	24 hours 50 ug	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
1,2-benzisothiazol-3(2H)-one	Eyes - Edema of the conjunctivae	Rabbit	2.4	-	OPP 81-4
	Skin - Edema	Rabbit	0.8	4 hours	OPP 81-5 Acute Dermal Irritation

Conclusion/Summary**Skin** : Based on available data, the classification criteria are not met.**Eyes** : Based on available data, the classification criteria are not met.**Respiratory** : Based on available data, the classification criteria are not met.**Sensitization**

Product/substance	Route of exposure	Species	Result
2,2'-(methylimino)diethanol	skin	Guinea pig	Not sensitizing
1,2-benzisothiazol-3(2H)-one	skin	Guinea pig	Sensitizing

Conclusion/Summary**Skin** : Based on available data, the classification criteria are met.**Respiratory** : Based on available data, the classification criteria are not met.**Mutagenicity**



TotalEnergies

SPIRIT 7000

SDS # : 086577

Product/substance	Test	Experiment	Result
2,2'-(methylinino)diethanol	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 473	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative
Polysulfides, di-tert-dodecyl	OECD 473	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Product/substance	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
2,2'-(methylinino)diethanol	Negative	Negative	Negative	Rat - Male, Female	Oral	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Product/substance	Result	Species	Dose	Exposure
2,2'-(methylinino)diethanol	Negative - Dermal	Rat - Male, Female	-	21 days; 6 hours per day
Polysulfides, di-tert-dodecyl	Negative - Oral	Rat - Male, Female	1000 mg/kg NOEL	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Product/substance	Category	Route of exposure	Target organs
2-phenylphenol (ISO)	Category 3	-	Respiratory tract irritation
3(2H)-Isothiazolone, 2-methyl-	Category 3	-	Respiratory tract irritation

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Product/substance	Category	Route of exposure	Target organs
3-iodo-2-propynyl butylcarbamate	Category 1	-	larynx
pyridine-2-thiol 1-oxide, sodium salt	Category 1	-	nervous system

Conclusion/Summary : Based on available data, the classification criteria are not met.

Aspiration hazard

Product/substance	Result
Distillates (petroleum), hydrotreated light naphthenic	ASPIRATION HAZARD - Category 1

Conclusion/Summary : Based on available data, the classification criteria are not met.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Toxic by eye contact.
Inhalation : No known significant effects or critical hazards.
Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact :  systemic toxicity
Inhalation : No specific data.
Skin contact :  irritation
redness
dryness
cracking
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Product/substance	Result	Species	Dose	Exposure
2,2'-(methylimino)diethanol	Sub-chronic NOAEL Dermal	Rat - Male, Female	100 mg/kg	13 weeks; 5 days per week
Polysulfides, di-tert-dodecyl	Sub-acute NOAEL Oral	Rat - Male, Female	1000 mg/kg	-

Conclusion/Summary : Not available.
General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACH Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

Harmful to aquatic life with long lasting effects.

12.1 Toxicity

Product/substance	Result	Species	Exposure	Test
Distillates (petroleum), hydrotreated light naphthenic	Acute EC50 >1000 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours	-
	Acute LC50 5001 mg/l	Fish	96 hours	-
	Acute EC50 >100 mg/l	Algae - <i>Desmodesmus subspicatus</i>	72 hours	-
		Daphnia - <i>Daphnia Magna</i>	48 hours	-
2,2'-(methylinino)diethanol	Acute EC50 233 mg/l	Fish	96 hours	-
	Acute LC50 >1000 mg/l	Algae - <i>Desmodesmus subspicatus</i>	72 hours	-
	Chronic NOEC 6.25 mg/l	Algae - <i>Raphidocelis subcapitata</i>	72 hours	OECD 201
	Acute EC10 0.7 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours	ISO
Neutralized monoethanolamine in ionic mixtures with acids	Acute EC50 8.42 mg/l Fresh water	Daphnia	48 hours	OECD 202
	Acute EC50 27.04 mg/l Fresh water	Crustaceans - <i>Crangon crangon</i> - Adult	48 hours	-
	Acute LC50 >100000 µg/l Marine water	Fish - <i>Carassius auratus</i>	96 hours	-
	Acute LC50 170 mg/l Fresh water	Fish - <i>Cyprinus carpio</i>	96 hours	Method C1
Polysulfides, di-tert-dodecyl	Acute LC50 349 mg/l Fresh water	Daphnia	21 days	OECD 202
	Chronic NOEC 0.85 mg/l Fresh water	Fish	96 hours	-
	Acute LC50 100.1 mg/l	Algae - <i>Pseudokirchneriella subcapitata</i>	72 days	OECD 201
	Chronic NOEC >100 mg/l	Algae - <i>Pseudokirchneriella subcapitata</i>	72 hours	OECD 201
2-phenylphenol (ISO)	Acute EC50 3.57 mg/l	Algae - <i>Raphidocelis subcapitata</i>	96 hours	US EPA
	Acute EC50 1.32 ppm Fresh water	Crustaceans - <i>Daphnia magna</i>	48 hours	STDMETH, ASTM and USEPA Standard E729-80
	Acute EC50 2.7 mg/l	Micro-organism	3 hours	OECD 209
	Acute LC50 4.5 mg/l	Fish - <i>Danio rerio</i>	96 hours	EU UBA Draft Method
	Chronic EC10 0.468 mg/l	Algae - <i>Pseudokirchneriella subcapitata</i>	72 hours	OECD 201
	Chronic NOEC 0.009 mg/l	Crustaceans - <i>Daphnia magna</i>	21 days	OECD 211
	Chronic NOEC 0.036 mg/l	Fish - <i>Pimephales</i>	21 days	-



TotalEnergies

SPIRIT 7000

SDS # : 086577

3-iodo-2-propynyl butylcarbamate	Acute EC50 0.039 mg/l	<i>promelas</i> Algae - <i>Raphidocelis</i> <i>subcapitata</i> - Exponential growth phase	72 hours	OECD
	Acute EC50 0.049 mg/l	Algae - <i>Scenedesmus</i> <i>subspicatus</i>	72 hours	-
	Acute EC50 0.47 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours	-
	Acute EC50 44 mg/l	Micro-organism	3 hours	-
	Acute LC50 500 ppb Fresh water	Crustaceans - <i>Hyalella</i> <i>azteca</i>	48 hours	-
	Acute LC50 40 ppb Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours	-
	Acute LC50 0.145 mg/l	Fish	96 hours	-
	Acute LC50 67 µg/l Fresh water	Fish - <i>Oncorhynchus</i> <i>mykiss</i> - Juvenile (Fledgling, Hatchling, Weanling)	96 hours	-
	Chronic EC10 0.025 mg/l	Algae - <i>Raphidocelis</i> <i>subcapitata</i> - Exponential growth phase	72 hours	OECD
	Chronic EC50 0.05 mg/l	Daphnia - <i>Daphnia magna</i>	21 days	-
sodium benzothiazol-2-yl sulphide	Chronic NOEC 8.4 ppb	Fish - <i>Pimephales</i> <i>promelas</i>	35 days	US EPA
	Acute EC50 0.5 mg/l	Algae - <i>Pseudokirchneriella</i> <i>subcapitata</i>	48 hours	OECD 201
	Acute EC50 0.4 mg/l Fresh water	Algae - <i>Raphidocelis</i> <i>subcapitata</i>	72 hours	-
	Acute EC50 0.3 mg/l Fresh water	Algae - <i>Raphidocelis</i> <i>subcapitata</i>	96 hours	-
	Acute EC50 0.71 mg/l	Crustaceans - <i>Daphnia</i> <i>magna</i>	48 hours	OECD 202
	Acute LC50 0.73 mg/l	Fish - <i>Oncorhynchus</i> <i>mykiss</i>	96 hours	OECD 203
	Chronic NOEC 0.066 mg/l	Algae - <i>Pseudokirchneriella</i> <i>subcapitata</i>	48 hours	OECD 201
	Chronic NOEC 0.08 mg/l	Crustaceans - <i>Daphnia</i> <i>magna</i>	21 hours	OECD 211
	Chronic NOEC 0.04 mg/l	Fish - <i>Oncorhynchus</i> <i>mykiss</i>	89 days	OECD 210
	Acute EC50 0.22 mg/l	Algae - <i>Desmodesmus</i> <i>subspicatus</i>	72 hours	OECD 201
pyridine-2-thiol 1-oxide, sodium salt	Acute EC50 0.6 mg/l Fresh water	Daphnia	48 hours	OECD 202
	Acute LC50 0.0073 mg/l	Fish - <i>Oncorhynchus</i> <i>mykiss</i>	96 hours	EPA
	Chronic NOEC 0.033 mg/l	Algae - <i>Desmodesmus</i> <i>subspicatus</i>	72 hours	OECD 201
	Fresh water			201
	Chronic NOEC 0.18 mg/l	Daphnia	48 hours	OECD 202
	Fresh water			
	Acute EC10 10.3 mg/l	Micro-organism	3 hours	OECD 209
	Acute EC50 0.11 mg/l	Algae - <i>Pseudokirchneriella</i> <i>subcapitata</i>	72 hours	-
	Acute EC50 2.9 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours	OECD 202
	Acute EC50 2.9 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours	OECD 202
1,2-benzisothiazol-3(2H)-one	Acute LC50 2.2 mg/l	Fish - <i>Cyprinodon</i> <i>variegatus</i>	96 hours	OECD 203
	Chronic NOEC 0.04 mg/l	Algae -	72 hours	OECD 201



3(2H)-Isothiazolone, 2-methyl-	Acute EC50 0.22 mg/l	<i>Pseudokirchneriella subcapitata</i>	72 hours	-
	Acute LC50 0.934 mg/l	Algae - <i>Selenastrum capricornutum</i>	48 hours	OECD 202
	Acute LC50 4.77 mg/l	Daphnia - <i>Daphnia magna</i>	96 hours	OECD 203
	Chronic NOEC 0.044 mg/l	Fish - <i>Oncorhynchus mykiss</i> Daphnia	21 days	OECD 211

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/substance	Test	Result	Dose	Inoculum
2-phenylphenol (ISO) sodium benzothiazol-2-yl sulphide pyridine-2-thiol 1-oxide, sodium salt 1,2-benzisothiazol-3(2H)-one	OECD 301B	71 % - Readily - 28 days	-	Activated sludge
	OECD 301C	2.5 % - Not readily - 14 days	-	-
	OECD 301B	60 % - Readily - 18 days	-	Activated sludge
	OECD 301C	0 % - Not readily - 28 days	-	-

Conclusion/Summary : Not available.

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Distillates (petroleum), hydrotreated light naphthenic	-	-	Not readily
2,2'-(methylimino)diethanol	-	-	Readily
Neutralized	-	-	Readily
monoethanolamine in ionic mixtures with acids	-	-	Readily
2-phenylphenol (ISO)	-	-	Readily
3-iodo-2-propynyl butylcarbamate	-	-	Readily
sodium benzothiazol-2-yl sulphide	-	-	Not readily
pyridine-2-thiol 1-oxide, sodium salt	-	-	Readily
1,2-benzisothiazol-3(2H)-one	-	-	Not readily
3(2H)-Isothiazolone, 2-methyl-	-	-	Not readily

12.3 Bioaccumulative potential

Product/substance	LogK _{ow}	BCF	Potential
2,2'-(methylimino)diethanol	-1.08	-	Low
Neutralized	-1.31	-	Low
monoethanolamine in ionic mixtures with acids	>12	-	High
Polysulfides, di-tert-dodecyl	3.18	22	Low
2-phenylphenol (ISO)	2.81	-	Low
3-iodo-2-propynyl butylcarbamate	2.42	<8	Low
sodium benzothiazol-2-yl sulphide	-2.64	-	Low
pyridine-2-thiol 1-oxide, sodium salt	0.63	-	Low
1,2-benzisothiazol-3(2H)-one	-0.486	-	Low
3(2H)-Isothiazolone, 2-methyl-			Low

12.4 Mobility in soil

- Soil/water partition coefficient (K_{oc})** : Not available.
- Mobility** : Not available.
- Mobility in soil** : Given its physical and chemical characteristics, the product is generally mobile in the ground. It may contaminate ground water. Forms an emulsion the product may evaporate.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB in a concentration $\geq 0,1$ %.

12.6 Endocrine disrupting properties

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACH Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

- Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Should not be released into the environment.
- Hazardous waste** : Yes.
- According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: 12 01 08*

Packaging

- Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information



TotalEnergies

SPIRIT 7000

SDS # : 086577

	ADR/RID	ADN	IMDG	ICAO/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.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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 authorization

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

Labeling : Not applicable.

Other EU regulations

Take note of Dir 94/33/EC on the protection of young people at work.

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

Industrial emissions : Not listed

(integrated pollution prevention and control) - Air

Industrial emissions : Not listed

(integrated pollution prevention and control) - Water

Explosive precursors : Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

National regulatory information

1. Act of 25 February 2011 on Chemical Substances and their Mixtures (Journal of Laws [Dz.U.] No. 63, Item 322, of 2011) as amended (Journal of Laws of 2015, Item 675) and ORDINANCE OF THE MARSHALL OF THE REPUBLIC OF POLAND of 24 November 2017 concerning announcement of a consolidated text of the Chemical Substances and their Mixtures Act (Journal of Laws [Dz.U.] of 17 January 2018, Item 143).2. REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (EC) NO. 1272/2008 of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Official Journal of the European Union, series L, No. 353, of 31 December 2008) as amended (adjustments to technical progress 1 - 13 ATP).3. Regulation of the Minister of Economy of 21 December 2005, concerning the essential requirements regarding individual protection measures (Journal of Laws [Dz. U.] No. 259 of 2005, Item 2173). 4. Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018, concerning the maximum admissible concentration and intensification of agents harmful to health in the work environment (Journal of Laws [Dz. U.] of 2018, Item 1286) 5. Regulation of the Minister of Health of 2 February 2011, concerning the testing and measurement of agents harmful to health in the work environment (Journal of Laws [Dz. U.] of 2011, No. 33, Item 166) 6. Notice of the Minister of Health of 9 September 2016 concerning promulgation of the consolidated text of the Regulation of the Minister of Health concerning occupational safety and hygiene in connection with presence of chemical agents at workplace (Journal of Laws [Dz. U.] of 2016, Item 1488)7. Government Statement of 26 July 2005 concerning entry into force of amendments to Annexes A and B of the European Agreement concerning the international carriage of dangerous goods by road (ADR) prepared in Geneva on 30 September 1957. (Journal of Laws [Dz. U.] No. 178, Item 1481, of 2005, as amended).8. Waste Act of 14 December 2012 (Journal of Laws [Dz. U.] Item 21, 2013, as amended)9. Act of 20 July 2018 on amendment of the Waste Act and certain other laws (Journal of Laws [Dz. U.] of 2018, Item 1592)10. Act of 13 June 2013 on management of packaging and packaging waste (Journal of Laws [Dz. U.] of 2013, Item 888).11. REGULATION OF THE MINISTER OF ENVIRONMENT of 9 December 2014 concerning catalogue of waste (Journal of Laws [Dz. U.] of 2014, Item 1923).12. Act of 29 July 2005 on amendment of the Waste Act and certain other laws (Journal of Laws [Dz. U.] of 175, Item 1458, 2005)13. Regulation (EC) 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European [...] Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Official Journal of the European Union series L No. 396 of 30 December 2006, as amended)

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Ingredient name	List name	Status
Methyldiethanolamine	Schedule III	Listed

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia inventory (AIIIC)	: Not determined.
Canada inventory (DSL/NDL)	: Not determined.
China inventory (IECSC)	: Not determined.
Europe inventory (EC)	: All components are listed or exempted.
Japan inventory	: Japan inventory (CSCL) : Not determined. Japan inventory (ISHL) : Not determined.
New Zealand Inventory of Chemicals (NZIoC)	: Not determined.
Philippines inventory (PICCS)	: Not determined.
Korea inventory (KECI)	: Not determined.
Taiwan Chemical Substances Inventory (TCSI)	: Not determined.
Thailand inventory	: Not determined.
Turkey inventory	: Not determined.
United States inventory (TSCA 8b)	: Not determined.
Vietnam inventory	: Not determined.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

15.2 Chemical Safety Assessment : See exposure scenarios

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	: ACGIH = American Conference of Governmental Industrial Hygienists ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor DNEL = Derived No Effect Level DMEL = Derived Minimal Effect Level DMSO = Dimethyl Sulfoxide EC50 = Half maximal effective concentration EL50 = median Effective Loading EUH statement = CLP-specific Hazard statement HSE = Health, Safety and Environment IC50 = Half maximal inhibitory concentration IDHL = Immediately dangerous to life or health LC50 = Median lethal concentration LD50 = Median lethal dose LL50 = median Lethal Loading LogKow = logarithm of the octanol/water partition coefficient N/A = Not available NIOSH = National Institute of Occupational Safety and Health NOAEL = No Observed Adverse Effect Level NOEC = No Observed Effect Concentration NOEL = No Observed Effect Level NOELR = No observed Effect Loading Rate OECD = Organisation for Economic Co-operation and Development OEL = Occupational Exposure Limit
-----------------------------------	--

PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 QSAR = Quantitative Structure–Activity Relationship
 REL = Recommended Exposure Limit
 STEL = Short Term Exposure Limit
 TLV = Threshold Limit Value
 TWA = Time Weight Average
 VOC = Volatile Organic Compound
 vPvB = Very Persistent and Very Bioaccumulative
 UFI = Unique Formula Identifier
 UVCB Substance of unknown or Variable composition, Complex reaction products or Biological material

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

Classification	Justification
Skin Sens. 1A, H317 Aquatic Chronic 3, H412	Calculation method Calculation method

Full text of abbreviated H statements

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH070	Toxic by eye contact.

Full text of classifications [CLP/GHS]

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - Category 1
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1
Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM) - Category 2
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Met. Corr. 1	CORROSIVE TO METALS - Category 1
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITIZATION - Category 1
Skin Sens. 1A	SKIN SENSITIZATION - Category 1A
Skin Sens. 1B	SKIN SENSITIZATION - Category 1B



TotalEnergies

SPIRIT 7000

SDS # : 086577

STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3

Date of revision : 2024/12/18

previous revision date : 2023/12/26

Version : 4

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture
Code : 086577
Product name : SPIRIT 7000

Section 1 - Title

Short title of the exposure scenario : Formulation additives, lubricants and greases - Industrial

List of use descriptors : **Identified use name:** Formulation additives, lubricants and greases - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15
Sector of end use: SU03, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Health Contributing scenarios : **General measures applicable to all activities**
General exposures Use in contained systems Elevated temperature - PROC02
Mixing operations Closed systems Batch processes at elevated temperatures - PROC03
Mixing operations Open systems Batch processes at elevated temperatures - PROC04, PROC05
Mixing operations (open systems) - PROC04, PROC05
Process sampling - PROC04, PROC08b
Bulk transfers Dedicated facility - PROC08b
Drum/batch transfers Dedicated facility - PROC08b
Drum/batch transfers Non-dedicated facility - PROC08a
Equipment cleaning and maintenance - PROC08a, PROC08b
Drum and small package filling - PROC09
Laboratory activities - PROC15
Storage - PROC01, PROC02

Processes and activities covered by the exposure scenario	: Industrial formulation of lubricant additives, lubricants and greases. Includes material transfers, mixing, large and small scale packing, sampling, maintenance.
--	---

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

ATIEL-ATC SPERC 2.Ai-I.v1

Amounts used : Volume manufactured/imported (tonnes/year) : 1.00E+04
Fraction of EU tonnage used in region : 0.1
Fraction of regional tonnage used locally : 0.1

Frequency and duration of use : Emission days (days per year) : 300

Environment factors not influenced by risk management : Local freshwater dilution factor : 10
Local marine water dilution factor : 100

Other operational conditions of use affecting environmental exposure : Negligible wastewater emissions as process operates without water contact.
Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements) : 5.00E-05
Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 9.90E-12
Release fraction to soil from process (after typical onsite RMMs): 0

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	: Treat air emission to provide a typical removal efficiency of (%) : 70 Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and for waste water to be discharged via public sewer system.
Organizational measures to prevent/limit release from site	: Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	: Estimated substance removal from wastewater via domestic sewage treatment (%): (%) : 87 Assumed domestic sewage treatment plant flow (m³/d) : 2.00E+03 Maximum allowable site tonnage (M _{safe}) based on release following total wastewater treatment removal (kg/day) : 135 236
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.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100 %. (unless stated differently)
Physical state	: Liquid, vapor pressure < 0.5 kPa at Standard Temperature and Pressure
Amounts used	: Not applicable.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently)
Human factors not influenced by risk management	: Not applicable.
Other operational conditions affecting worker exposure	: Covers percentage substance in the product up to 100% (unless stated differently)
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: 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. Avoid direct eye contact with product, also via contamination on hands.
Personal protection	: Use suitable eye protection.

Contributing scenario controlling worker exposure for 3: General exposures Use in contained systems Elevated temperature

No other specific measures identified.

Contributing scenario controlling worker exposure for 4: Mixing operations Closed systems Batch processes at elevated temperatures

Ventilation control measures	: Provide extract ventilation to points where emissions occur.
-------------------------------------	--

Contributing scenario controlling worker exposure for 5: Mixing operations Open systems Batch processes at elevated temperatures

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours.

Ventilation control measures : Provide extract ventilation to points where emissions occur.

Contributing scenario controlling worker exposure for 6: Mixing operations (open systems)

Ventilation control measures : Provide extract ventilation to points where emissions occur.

Contributing scenario controlling worker exposure for 7: Process sampling

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 1 hour per day.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 8: Bulk transfers Dedicated facility

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

Contributing scenario controlling worker exposure for 9: Drum/batch transfers Dedicated facility

Ventilation control measures : Provide extract ventilation to points where emissions occur.

Contributing scenario controlling worker exposure for 10: Drum/batch transfers Non-dedicated facility

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 1 hour per day.

Ventilation control measures : Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour).

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

Contributing scenario controlling worker exposure for 11: Equipment cleaning and maintenance

Technical conditions and measures to control dispersion from source towards the worker : Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Engineering controls : Drain down and flush system prior to equipment break-in or maintenance.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Clear spills immediately.

Personal protection : Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

Contributing scenario controlling worker exposure for 12: Drum and small package filling

Ventilation control measures : Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour).

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 13: Laboratory activities

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours.

Contributing scenario controlling worker exposure for 14: Storage

Engineering controls : Store substance within a closed system.

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : Used ECETOC TRA model.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 3: General exposures Use in contained systems Elevated temperature

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 4: Mixing operations Closed systems Batch processes at elevated temperatures

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 5: Mixing operations Open systems Batch processes at elevated temperatures

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 6: Mixing operations (open systems)

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 7: Process sampling

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 8: Bulk transfers Dedicated facility

- Exposure assessment (human):** : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 9: Drum/batch transfers Dedicated facility

- Exposure assessment (human):** : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 10: Drum/batch transfers Non-dedicated facility

- Exposure assessment (human):** : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 11: Equipment cleaning and maintenance

- Exposure assessment (human):** : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 12: Drum and small package filling

- Exposure assessment (human):** : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 13: Laboratory activities

- Exposure assessment (human):** : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
- Exposure estimation and reference to its source** : Not available.

Exposure estimation and reference to its source - Workers: 14: Storage

- Exposure assessment (human):** : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
- Exposure estimation and reference to its source** : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

- 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/introduction.
- Health** : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment : Not available.**Health** : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture
Code : 086577
Product name : SPIRIT 7000

Section 1 - Title

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, PROC18
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Health Contributing scenarios : **General measures applicable to all activities**
Filling/preparation of equipment from drums or containers. - PROC08b
Metal machining operations - PROC17
Operation and lubrication of high energy open equipment - PROC17, PROC18
Automated metal rolling/forming Use in contained systems Operation is carried out at elevated temperature (> 20°C above ambient temperature) - PROC02
Semi-automated metal rolling/forming Open systems Operation is carried out at elevated temperature (> 20°C above ambient temperature) - PROC17
Equipment cleaning and maintenance - PROC08b
Storage - PROC01, PROC02

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 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

ATIEL-ATC SPERC 4.Fi.v1

Amounts used : Volume manufactured/imported (tonnes/year) : 2.05E+02
Fraction of EU tonnage used in region : 0.1
Fraction of regional tonnage used locally : 0.1

Frequency and duration of use : Emission days (days per year) : 300

Environment factors not influenced by risk management : Local freshwater dilution factor : 10
Local marine water dilution factor : 100

Other operational conditions of use affecting environmental exposure : Water-based (oil in water emulsion) or straight oil (contains no water) process
Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements) : 5.0E-05
Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 9.90E-12
Release fraction to soil from process (after typical onsite RMMs): 0

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	: Treat air emission to provide a typical removal efficiency of (%) : 70 Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and for waste water to be discharged via public sewer system.
Organizational measures to prevent/limit release from site	: Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	: Estimated substance removal from wastewater via domestic sewage treatment (%): (%) : 87 Assumed domestic sewage treatment plant flow (m ³ /d) : 2.00E+03 Maximum allowable site tonnage (M _{Safe}) based on release following total wastewater treatment removal (kg/day) : 3 216
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.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100% (unless stated differently).
Physical state	: Liquid, vapor pressure < 0.5 kPa at Standard Temperature and Pressure.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently).
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. unless stated differently. Assumes a good basic standard of occupational hygiene has been implemented.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: 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. Avoid direct eye contact with product, also via contamination on hands.
Personal protection	: Use suitable eye protection.

Contributing scenario controlling worker exposure for 3: Filling/preparation of equipment from drums or containers.

No other specific measures identified.

Contributing scenario controlling worker exposure for 4: Metal machining operations

Ventilation control measures	: Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
-------------------------------------	---

Contributing scenario controlling worker exposure for 5: Operation and lubrication of high energy open equipment

Ventilation control measures	: Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour)
-------------------------------------	--

Contributing scenario controlling worker exposure for 6: 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.

Contributing scenario controlling worker exposure for 7: Semi-automated metal rolling/forming Open systems Operation is carried out at elevated temperature (> 20°C above ambient temperature)

Ventilation control measures	: Provide extract ventilation to points where emissions occur.
-------------------------------------	--

Contributing scenario controlling worker exposure for 8: Equipment cleaning and maintenance

Technical conditions and measures at process level (source) to prevent release : Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Engineering controls : Drain down system prior to equipment break-in or maintenance.

Ventilation control measures : Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Contributing scenario controlling worker exposure for 9: Storage

Engineering controls : Store substance within a closed system.

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : Used ECETOC TRA model.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 3: Filling/preparation of equipment from drums or containers.

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 4: Metal machining operations

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 5: Operation and lubrication of high energy open equipment

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 6: Automated metal rolling/forming Use in contained systems Operation is carried out at elevated temperature (> 20°C above ambient temperature)

Exposure assessment (human): : The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 7: Semi-automated metal rolling/forming Open systems Operation is carried out at elevated temperature (> 20°C above ambient temperature)

Exposure assessment (human):	: The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 8: Equipment cleaning and maintenance

Exposure assessment (human):	: The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 9: Storage

Exposure assessment (human):	: The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	: Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

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/introduction .
Health	: Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction .

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mixture
Code : 086577
Product name : SPIRIT 7000

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, PROC18
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Health Contributing scenarios : **General measures applicable to all activities**
Filling/preparation of equipment from drums or containers. - PROC08a
Metal machining operations - PROC17
Operation and lubrication of high energy open equipment - PROC17, PROC18
Equipment cleaning and maintenance - PROC08a
Storage - PROC01, PROC02

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 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

ATIEL-ATC SPERC 8.Fp.v1

Amounts used : Volume manufactured/imported (tonnes/year) : 2.05E+02
Fraction of EU tonnage used in region : 0.1
Fraction of regional tonnage used locally : 0.1

Frequency and duration of use : Emission days (days per year) : 365

Environment factors not influenced by risk management : Local freshwater dilution factor : 10
Local marine water dilution factor : 100

Other operational conditions of use affecting environmental exposure : Water-based (oil in water emulsion) or straight oil (contains no water) process
Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements) : 1.00E-04
Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 1.00E-03
Release fraction to soil from process (after typical onsite RMMs): 1.00E-03

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.

Organizational measures to prevent/limit release from site	: Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	: Estimated substance removal from wastewater via domestic sewage treatment (%): (%) : 87 Assumed domestic sewage treatment plant flow (m³/d) : 2.00E+03 Maximum allowable site tonnage (M _{Safe}) based on release following total wastewater treatment removal (kg/day) : 52
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.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100% (unless stated differently).
Physical state	: Liquid, vapor pressure < 0.5 kPa at Standard Temperature and Pressure.
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours (unless stated differently).
Other operational conditions affecting worker exposure	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. unless stated differently. Assumes a good basic standard of occupational hygiene has been implemented.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: 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. Avoid direct eye contact with product, also via contamination on hands.
Personal protection	: Use suitable eye protection.

Contributing scenario controlling worker exposure for 3: Filling/preparation of equipment from drums or containers.

Frequency and duration of use/exposure	: Avoid carrying out activities involving exposure for more than 1 hour per day.
---	--

Contributing scenario controlling worker exposure for 4: Metal machining operations

Ventilation control measures	: Provide extract ventilation to points where emissions occur.
-------------------------------------	--

Contributing scenario controlling worker exposure for 5: Operation and lubrication of high energy open equipment

Frequency and duration of use/exposure	: Avoid carrying out activities involving exposure for more than 4 hours. or Wear a respirator conforming to EN140 with type A filter or better.
Ventilation control measures	: Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	
Personal protection	: Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 6: Equipment cleaning and maintenance

Frequency and duration of use/exposure	: Avoid carrying out activities involving exposure for more than 4 hours. or Wear a respirator conforming to EN140 with type A filter or better.
Technical conditions and measures at process level (source) to prevent release	: Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
Engineering controls	: Drain down system prior to equipment break-in or maintenance.
Ventilation control measures	: Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour) Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Contributing scenario controlling worker exposure for 7: Storage

Engineering controls	: Store substance within a closed system.
-----------------------------	---

Section 3 - Exposure estimation and reference to its source

Website:	: Not applicable.
-----------------	-------------------

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment):	: Used ECETOC TRA model.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	: The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 3: Filling/preparation of equipment from drums or containers.

Exposure assessment (human):	: The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 4: Metal machining operations

Exposure assessment (human):	: The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 5: Operation and lubrication of high energy open equipment

Exposure assessment (human):	: The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 6: Equipment cleaning and maintenance

Exposure assessment (human):	: The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 7: Storage

Exposure assessment (human):	: The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	: Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

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/introduction .
Health	: Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction .

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.