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1.01  
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Product Name** Aviation Jet Fuel JET A-1 (JETA1)  
**Synonyms** 145163  
**Product Code(s)** 10505  
**Safety data sheet number** 10505  
**Unique Formula Identifier (UFI)** NW2X-E0A2-0004-SK22  
**Pure substance/mixture** Mixture

Contains Distillates (petroleum), hydrotreated light, Kerosine (petroleum), hydrodesulfurized, Kerosine (petroleum), sweetened, Renewable hydrocarbons (kerosine type fraction)

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

**Recommended use** Use as a fuel (ES12a, ES12b)  
**Uses advised against** Supported uses are listed above. Other uses are not recommended.

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

**Supplier**  
Neste Oyj  
Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND  
Tel. +358 10 45811  
SDS@neste.com (chemical safety)

### 1.4. Emergency telephone number

Emergency Telephone :

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Estonia	Poison information telephone number: 16662, calling from abroad: (+372) 7943 794
Finland	+358 800 147 111, +358 9 471 977, Poison Information Centre
France	France: Numéro ORFILA (INRS) : + 33 (0)1 45 42 59 59.
Germany	+49 32 211121704, Chemwatch Emergency Response Phone Number
Latvia	Valsts toksikoloģijas centrs: (+371) 6704 2473
Sweden	När det är akut: 112, begär giftinformation. I mindre akuta fall 010-456 6700, Giftinformationscentralens direktnummer

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

*Classification according to*

**Regulation (EC) No. 1272/2008 [CLP]**

Flammable liquids	Category 3 - (H226)
Skin corrosion/irritation	Category 2 - (H315)
Carcinogenicity	Category 1B - (H350)
Specific target organ toxicity (single exposure)	Category 3 - (H336)
Category 3 Narcotic effects	
Aspiration hazard	Category 1 - (H304)
Hazardous to the aquatic environment - chronic	Category 2 - (H411)

**2.2. Label elements**

Contains Distillates (petroleum), hydrotreated light, Kerosine (petroleum), hydrodesulfurized, Kerosine (petroleum), sweetened, Renewable hydrocarbons (kerosine type fraction)

**Signal word**

Danger

**Hazard statements**

H226 - Flammable liquid and vapour  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H336 - May cause drowsiness or dizziness  
H350 - May cause cancer  
H411 - Toxic to aquatic life with long lasting effects

**Precautionary Statements - EU (§28, 1272/2008)**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P261 - Avoid breathing dust, fume, gas, mist, vapors and spray  
P273 - Avoid release to the environment  
P280 - Wear protective gloves, protective clothing, eye protection and face protection  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor  
P331 - Do NOT induce vomiting

**2.3. Other hazards**

Evaporates slowly. May irritate eyes. Vapours may irritate throat and respiratory system. Risk of soil and ground water contamination.

This product does not contain substances considered to have endocrine disrupting properties at levels of 0.1% or higher.

**SECTION 3: Composition/information on ingredients****3.1. Substances**

Not applicable

**3.2. Mixtures**

Chemical name	Weight-%	REACH registration	EC No. (Index No.)	Classification according to	Specific concentration	M-Factor	M-Factor (long-ter)	Notes
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		number		Regulation (EC) No. 1272/2008 [CLP]	limit (SCL)		m)	
Kerosine (petroleum), sweetened 91770-15-9	0 - 100%	01-2119502385-46	294-799-5	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) STOT SE 3 (H336) Aq. Chronic 2 (H411)	-	-	-	-
Kerosine (petroleum), hydrodesulfurized 64742-81-0	0 - 100%	01-2119462828-25	265-184-9	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) STOT SE 3 (H336) Aq. Chronic 2 (H411)	-	-	-	-
Distillates (petroleum), hydrotreated light 64742-47-8	0 - 100%	01-2119484819-18	265-149-8	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) STOT SE 3 (H336) Aq. Chronic 2 (H411)	-	-	-	-
Renewable hydrocarbons (kerosine type fraction) -	0 - 50%	01-2119850115-46	931-082-4	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304)	-	-	-	-

**Full text of H- and EUH-phrases: see section 16**

#### **Acute Toxicity Estimate**

No information available

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59).

#### **Additional information**

Mixture of a petroleum product and additives. Total aromatics at maximum: 26.5 %. Naphthalene (CAS 91-20-3) < 1 %. Toluene (CAS 108-88-3) < 1%. Benzene (CAS 71-43-2) < 0.1 %.

NOTE: One or more of the fossil components may contain more than 0.1% cumene (CAS 98-82-8), a class 1B (H350) carcinogen.

## **SECTION 4: First aid measures**

### **4.1. Description of first aid measures**

#### **Inhalation**

Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, (trained personnel should) give oxygen. Get medical attention immediately if symptoms occur.

#### **Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

#### **Skin contact**

Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions see a doctor.

#### **Ingestion**

ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Never give anything by mouth to an unconscious person. Get immediate medical attention.

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

<b>Symptoms</b>	Irritating to skin. May irritate eyes. Vapours in high concentrations are narcotic. May cause nausea, headache, dizziness and intoxication. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
<b>Effects of Exposure</b>	May cause cancer.

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

<b>Note to doctors</b>	Treat symptomatically.
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**SECTION 5: Firefighting measures****5.1. Extinguishing media**

**Suitable Extinguishing Media** Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray. Alcohol resistant foam.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

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

**Specific hazards arising from the chemical** Flammable liquid and vapour. Containers may explode when heated.

**Hazardous combustion products** Carbon dioxide (CO<sub>2</sub>) Carbon monoxide

**5.3. Advice for firefighters**

**Special protective equipment and precautions for fire-fighters** Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Wear positive pressure self-contained breathing apparatus (SCBA).

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation. Do not breathe vapour or mist. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**For emergency responders** Prevent unauthorized access. Keep people away from and upwind of spill/leak.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges. Vapours may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).

**6.2. Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Avoid release to the environment. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air). Risk of soil and ground water contamination.

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

**Methods for containment** Stop leak if you can do it without risk. Keep out of drains, sewers, ditches and waterways.

**Methods for cleaning up** Take up with sand, earth or other non-combustible absorbent material. Keep in suitable, closed containers for disposal. Immediately start clean-up of the liquid and contaminated soil. Large spills should be collected mechanically (remove by pumping) for disposal. Pay attention to the fire and health hazards caused by the product.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

#### 6.4. Reference to other sections

**Reference to other sections** See Section 7, 8, 13 for more information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advice on safe handling** Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. The product contains volatile substances which may spread in the atmosphere.

Avoid breathing vapours or mists. Avoid contact with skin, eyes or clothing. Use only outdoors or in a well-ventilated area. Try to avoid product volatilization during handling and transferring. Use personal protective equipment and/or local ventilation when needed. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Clear up spills immediately and dispose of waste safely.

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

**Storage Conditions** Flammable liquid storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in accordance with local regulations. Keep in properly labelled containers. Protect from direct sunlight. Store in a demarcated bunded area to prevent release to drains and/or watercourses.

### 7.3. Specific end use(s)

**Risk Management Methods (RMM)** Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Exposure Limits** Solvent naphtha, group 3: 100mg/m<sup>3</sup> (8h), HTP 2020/FIN. The individual limit values can be applied for the hydrocarbons.

Cumene: 10 ppm (8h), 50 mg/m<sup>3</sup> (8h), 50 ppm (15 min), 250 mg/m<sup>3</sup> (15min), EU OELV (EC 2019/1831), HTP 2020/FIN (skin).

Chemical name	Cyprus	Czech Republic	Denmark	Estonia
Distillates (petroleum), hydrotreated light 64742-47-8	-	-	-	TWA: 5 mg/kg STEL: 500 mg/m <sup>3</sup>

Chemical name	Finland	France	Germany TRGS	Germany DFG
Distillates (petroleum), hydrotreated light 64742-47-8	-	-	TWA:	TWA: 5 mg/m <sup>3</sup> TWA: 50 ppm TWA: 350 mg/m <sup>3</sup> Peak: 20 mg/m <sup>3</sup> Peak: 100 ppm Peak: 700 mg/m <sup>3</sup>
Chemical name	Greece	Hungary	Italy MDLPS	Italy AIDII
Kerosine (petroleum), hydrodesulfurized 64742-81-0	-	-	-	TWA: 200 mg/m <sup>3</sup> cute*
Chemical name	Portugal	Romania	Slovakia	Slovenia
Kerosine (petroleum), hydrodesulfurized 64742-81-0	TWA: 200 ppm Cutânea*	-	-	-
Chemical name	Spain	Sweden	Switzerland	United Kingdom
Distillates (petroleum), hydrotreated light 64742-47-8	-	-	TWA: 50 ppm TWA: 350 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> STEL: 100 ppm STEL: 700 mg/m <sup>3</sup>	-

**Biological occupational exposure limits** This product, as supplied, contains materials that do not have reportable biological exposure limits or are not subject to the reporting requirements of the local jurisdiction.

#### Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Kerosine (petroleum), hydrodesulfurized 64742-81-0	-	7.7 mg/kg bw/day [4] [6]	50 mg/m <sup>3</sup> [4] [6] 250 mg/m <sup>3</sup> [5] [7]
Renewable hydrocarbons (kerosine type fraction) -	-	42 mg/kg/day [4] [6]	147 mg/m <sup>3</sup> [4] [6]

[1]

#### Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Distillates (petroleum), hydrotreated light 64742-47-8	18.75 mg/kg bw/day [4] [6]	-	-
Kerosine (petroleum), hydrodesulfurized 64742-81-0	5 mg/kg bw/day [4] [6]	1.64 mg/kg bw/day [4] [6]	10.66 mg/m <sup>3</sup> [4] [6]

[4] Systemic health effects.

[5] Local health effects.

[6] Long term.

[7] Short term.

**Predicted No Effect Concentration (PNEC)** No information available.

#### 8.2. Exposure controls

<b>Engineering controls</b>	Use only in well-ventilated areas. Use personal protective equipment and/or local ventilation when needed. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).
<b>Personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Hand protection</b>	Wear protective gloves. It is recommended that gloves are made of the following material: Nitrile rubber. Neoprene. Polyvinyl chloride (PVC). Wear suitable gloves tested to EN 374. Change protective gloves regularly. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.
<b>Skin and body protection</b>	Wear suitable protective clothing. Wear anti-static protective clothing if there is a risk of ignition from static electricity.
<b>Respiratory protection</b>	Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Wear a respirator fitted with the following cartridge: Gas filter. A2. Filter must be changed often enough. Gas and combination filter cartridges must comply with EN 14387.
<b>Thermal hazards</b>	No information available.
<b>Environmental exposure controls</b>	Store in a demarcated bunded area to prevent release to drains and/or watercourses.

## SECTION 9: Physical and chemical properties

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

<b>Appearance</b>	Liquid	
<b>Physical state</b>	Liquid	
<b>Colour</b>	clear	
<b>Odour</b>	Hydrocarbons	
<b>Odour threshold</b>	-	
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>Melting point / freezing point</b>	<= -47 °C	ASTM D2386, D5972, IP 529
<b>Boiling point or initial boiling point and boiling range</b>	130 - 300 °C	ASTM D 86
<b>Flammability</b>	No data available	None known
<b>Lower and upper explosion limit/flammability limit</b>		
<b>Lower explosion limit</b>	0.6 %	
<b>Upper explosion limit</b>	6 %	
<b>Flash point</b>	>= 38 °C	IP 170
<b>Autoignition temperature</b>	~ 250 °C	
<b>Decomposition temperature</b>	-	
<b>SADT (°C)</b>	No data available	None known
<b>pH</b>	No data available	
<b>pH (as aqueous solution)</b>	No data available	
<b>Kinematic viscosity</b>	< 7	mm <sup>2</sup> /s @ 40 °C
<b>Dynamic viscosity</b>	-	
<b>Solubility</b>		mg/l @ 20 °C
<b>Water solubility</b>	The product has poor water-solubility < 50	
<b>Partition coefficient n-octanol/water (log value)</b>	log Kow: > 3	
<b>Vapour pressure</b>	~ 2	kPa @ 38 °C

Density and/or relative density	0,775 - 0,840	@ 15°C ASTM D4052
Bulk density	-	
Liquid Density	-	
Relative vapour density	> 3 (Air = 1.0)	
Particle characteristics		
Particle Size	-	
Particle Size Distribution	-	

## 9.2. Other information

### 9.2.1. Information with regards to physical hazard classes

Explosive properties H226	Not considered to be explosive
Oxidising properties	Does not meet the criteria for classification as oxidising

### 9.2.2. Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

Stability Stable under normal conditions.

### Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	Yes.

### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None known.

### 10.4. Conditions to avoid

Conditions to avoid Keep away from heat, sparks and open flame.

### 10.5. Incompatible materials

Incompatible materials Oxidising agent.

### 10.6. Hazardous decomposition products

Hazardous decomposition products None under normal use conditions.

## SECTION 11: Toxicological information

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

#### Information on likely routes of exposure

**Acute toxicity** Based on available data, the classification criteria are not met

### Numerical measures of toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Kerosine (petroleum), sweetened	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
Kerosine (petroleum), hydrodesulfurized	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5200 mg/m <sup>3</sup> (Rat) 4 h
Distillates (petroleum), hydrotreated light	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
Renewable hydrocarbons (kerosine type fraction)	> 2000 mg/kg, Rat (EC B1 tris)	> 2000 mg/kg, Rat (EC B3)	-

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

<b>Skin corrosion/irritation</b>	Irritating to skin. The product irritates mucous membranes and may cause abdominal discomfort if swallowed. May cause respiratory irritation.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Respiratory or skin sensitisation</b>	Based on available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	May cause cancer. Contains a known or suspected carcinogen.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	May cause nausea, headache, dizziness and intoxication. Anaesthetic in high concentrations.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

#### 11.2. Information on other hazards

##### 11.2.1. Endocrine disrupting properties

**Endocrine disrupting properties** This product does not contain substances considered to have endocrine disrupting properties at levels of 0.1% or higher.

##### 11.2.2. Other information

**Other adverse effects** None known.

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

Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Kerosine (petroleum), sweetened	EL50, 72 h: 1-3 mg/L, Pseudokirchneriella subcapitata WAF (OECD 201)  NOEL, 24 hours: 1 mg/l, Pseudokirchneriella subcapitata WAF (OECD 201)	LL <sub>50</sub> , 24 hours: 5-17 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203)  LL <sub>50</sub> , 48 hours: 2-5 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203)  NOEL, 28 days: 0,1 mg/l, Oncorhynchus mykiss (Rainbow trout) (QSAR)	-	EL50, 24 hours: 4,6 mg/l, Daphnia magna WAF (OECD 202)  EL50, 48 hours: 1,4 mg/l, Daphnia magna WAF (OECD 202)  NOEL, 48 hours: 0,3 mg/l, Daphnia magna WAF (OECD 202)  EL50, 21 days: 0.81 mg/l, Daphnia magna WAF (OECD 211)  NOEL, 21 days: 0,48 mg/l, Daphnia magna WAF (OECD 211)
Kerosine (petroleum), hydrodesulfurized	EL50, 72 h: 1-3 mg/L, Pseudokirchneriella subcapitata WAF (OECD 201)  NOEL, 24 hours: 1 mg/l, Pseudokirchneriella subcapitata WAF (OECD 201)	LL <sub>50</sub> , 24 hours: 5-17 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203)  LL <sub>50</sub> , 48 hours: 2-5 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203)  NOEL, 28 days: 0,1 mg/l, Oncorhynchus mykiss (Rainbow trout) (QSAR)	-	EL50, 24 hours: 4,6 mg/l, Daphnia magna WAF (OECD 202)  EL50, 48 hours: 1,4 mg/l, Daphnia magna WAF (OECD 202)  NOEL, 48 hours: 0,3 mg/l, Daphnia magna WAF (OECD 202)  EL50, 21 days: 0.81 mg/l, Daphnia magna WAF (OECD 211)  NOEL, 21 days: 0,48 mg/l, Daphnia magna WAF (OECD 211)
Distillates (petroleum), hydrotreated light	EL50, 72 h: 1-3 mg/L, Pseudokirchneriella subcapitata WAF (OECD 201)  NOEL, 24 hours: 1 mg/l, Pseudokirchneriella subcapitata WAF (OECD 201)	LL <sub>50</sub> , 24 hours: 5-17 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203)  LL <sub>50</sub> , 48 hours: 2-5 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203)  NOEL, 28 days: 0,1 mg/l, Oncorhynchus mykiss (Rainbow trout) (QSAR)	-	EL50, 24 hours: 4,6 mg/l, Daphnia magna WAF (OECD 202)  EL50, 48 hours: 1,4 mg/l, Daphnia magna WAF (OECD 202)  NOEL, 48 hours: 0,3 mg/l, Daphnia magna WAF (OECD 202)  EL50, 21 days: 0.81 mg/l, Daphnia magna WAF

				(OECD 211) NOEL, 21 days: 0,48 mg/l, Daphnia magna WAF (OECD 211)
Renewable hydrocarbons (kerosine type fraction)	EL50, 72 h: > 100 mg/l, WAF (OECD 201)	LL50, 96 h: > 1000 mg/l, WAF (OECD 203)	EC50, 3 h: > 1000 mg/l, Micro-organisms (wastewater sludge)(OECD 209)	EL50, 48 hours: > 100 mg/l, WAF (OECD 202) NOEC, 21 days: 1 mg/l, LOEC, 21 days: 3,2 mg/l, Daphnia magna WAF (OECD 211) NOEC, 10 days: 373 mg/kg, LC <sub>50</sub> , 10 days: 1200 mg/kg, Sediment organisms (OSPAR Protocols, Part A: Sediment Bioassay, 2005)

### 12.2. Persistence and degradability

**Persistence and degradability** The product contains volatile substances which may spread in the atmosphere. Can be photodegraded in the atmosphere.

No significant reaction in water.

Kerosine (petroleum), sweetened (91770-15-9)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)			Inherently biodegradable.

Kerosine (petroleum), hydrodesulfurized (64742-81-0)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)			Inherently biodegradable.

Distillates (petroleum), hydrotreated light (64742-47-8)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)			Inherently biodegradable.

Renewable hydrocarbons (kerosine type fraction) (-)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO <sub>2</sub> Evolution Test (TG 301 B)			Readily biodegradable

### 12.3. Bioaccumulative potential

**Bioaccumulation** Possibly bioaccumulative.  
log Kow: > 3.

### Component Information

### 12.4. Mobility in soil

**Mobility in soil** Evaporates slowly. The product has poor water-solubility. Product can penetrate soil until

reaching the surface of ground water. The product contains substances which are bound to particulate matter and are retained in soil.

### 12.5. Results of PBT and vPvB assessment

**PBT and vPvB assessment** The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Kerosine (petroleum), sweetened	Not PBT/vPvB
Kerosine (petroleum), hydrodesulfurized	Not PBT/vPvB
Distillates (petroleum), hydrotreated light	Not PBT/vPvB

### 12.6. Endocrine disrupting properties

**Endocrine disrupting properties** This product does not contain substances considered to have endocrine disrupting properties at levels of 0.1% or higher.

**12.7. Other adverse effects** No information available.

**Other adverse effects** No information available.

## **SECTION 13: Disposal considerations**

### 13.1. Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. When handling waste, the safety precautions applying to handling of the product should be considered. Do not allow into any sewer, on the ground or into any body of water.

**Contaminated packaging** Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Product residues retained in emptied containers can be hazardous.

**Waste codes / waste designations according to EWC** Waste codes should be assigned by the user based on the application for which the product was used

For example:  
13 07 03 other fuels (including mixtures)

## **SECTION 14: Transport information**

### IATA

- 14.1 UN number or ID number 1863  
 14.2 UN proper shipping name Fuel, aviation, turbine engine  
 14.3 Transport hazard class(es) 3  
 14.4 Packing group III  
 14.5 Environmental hazards Yes  
 14.6 Special precautions for user -

### IMDG

- 14.1 UN number or ID number 1863  
 14.2 UN proper shipping name Fuel, aviation, turbine engine  
 14.3 Transport hazard class(es) 3  
 14.4 Packing group III  
 14.5 Environmental hazard Marine pollutant  
 14.6 Special precautions for user -  
 14.7 Maritime transport in bulk MARPOL Annex I (This cargo is considered an Energy-rich fuel and effective 1 January

according to IMO instruments 2019 should be carried subject to Annex I of MARPOL, see Annex 12 of MEPC.2/Circ.24. Please also refer to MEPC.1/Circ.879 - GUIDELINES FOR THE CARRIAGE OF ENERGY-RICH FUELS AND THEIR BLENDS)

**RID**

14.1 UN number or ID number 1863  
 14.2 UN proper shipping name Fuel, aviation, turbine engine  
 14.3 Transport hazard class(es) 3  
 14.4 Packing group III  
 14.5 Environmental hazard Yes  
 14.6 Special precautions for user -

**ADR**

14.1 UN number or ID number 1863  
 14.2 UN proper shipping name Fuel, aviation, turbine engine  
 14.3 Transport hazard class(es) 3  
 14.4 Packing group III  
 14.5 Environmental hazard Yes  
 14.6 Special precautions for user  
 Classification code 30  
 Tunnel restriction code D/E  
 -

**ADN**

UN number or ID number 1863  
 UN proper shipping name Fuel, aviation, turbine engine  
 Transport hazard class(es) 3  
 Subsidiary hazard class N2 + CMR  
 Packing group III

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations**

**Water hazard class (WGK)** strongly hazardous to water (WGK 3)

**European Union**

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.

**Authorisations and/or restrictions on use:**

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants**

Not applicable

**Dangerous substance category per Seveso Directive (2012/18/EU)**

P5a - FLAMMABLE LIQUIDS

P5b - FLAMMABLE LIQUIDS

P5c - FLAMMABLE LIQUIDS

E2 - Hazardous to the Aquatic Environment in Category Chronic 2

**Ozone-depleting substances (ODS) regulation (EC) 2024/590**

Not applicable

**EU - Water Framework Directive (2000/60/EC)****EU - Environmental Quality Standards (2008/105/EC)****Other Regulations**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH).  
Classification according to Regulation (EC) No. 1272/2008 [CLP].

**15.2. Chemical safety assessment****Chemical Safety Report**

Chemical Safety Assessments have been carried out for these substances

**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of any hazard and/or precautionary statements referred to under Sections 2-15**

H225 - Highly flammable liquid and vapour

H226 - Flammable liquid and vapour

H302 - Harmful if swallowed

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H336 - May cause drowsiness or dizziness

H340 - May cause genetic defects

H350 - May cause cancer

H351 - Suspected of causing cancer

H361d - Suspected of damaging the unborn child

H372 - Causes damage to organs through prolonged or repeated exposure

H373 - May cause damage to organs through prolonged or repeated exposure

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H411 - Toxic to aquatic life with long lasting effects

**Legend**

SVHC: Substances of Very High Concern for Authorisation:

**Legend Section 8: Exposure controls/personal protection**

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

\*

Skin designation

+ Sensitisers

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	On basis of test data
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	On basis of test data

Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	On basis of test data
Ozone	Calculation method
Flammable liquids	On basis of test data

**Supersedes date** 29/10/2024

**Revision date** 16/02/2026

**Reason for revision** Updated, sections:  
15 (WGK)  
Exposure scenario

**Restrictions on use** For professional use only

**Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)**

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**

# Exposure scenario

## Use as a fuel - Industrial

### Identification

Product name Jet Fuel (ID 20927; 20928)

Version number 2020

Es reference ES\_12a

### 1. Title of exposure scenario

Main title Use as a fuel - Industrial

Process scope Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

#### Environment

Environmental release category ERC7 Use of functional fluid at industrial site

SPERC ESVOC SPERC 7.12a.v1

#### Worker

Process category PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities  
PROC16 Use of fuels

### 2. Conditions of use affecting exposure (Industrial - Environment 1)

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

Fraction of EU tonnage used in region: 0.1  
Regional use tonnage: 550 000 tonnes/year  
Fraction of Regional tonnage used locally: 1  
Annual site tonnage: 550 000 tonnes  
Maximum daily site tonnage: 1800 tonnes

#### Frequency and duration of use

Continuous release.  
Emission days: 300 days/year

#### Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0,005

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0,00001

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

#### Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

# Use as a fuel - Industrial

## Risk management measures

**Good practice** Common practices vary across sites, thus conservative process release estimates used.  
Risk from environmental exposure is driven by freshwater sediment.

**STP details** Estimated substance removal from wastewater via domestic sewage treatment: 94,7%  
Removal efficiency (total): 94,7%  
Maximum allowable site tonnage (M<sub>safe</sub>), based on release following total wastewater treatment removal: 5 300 tonne/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day):  
2 000.

## Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

**Air** Treat air emission to provide a typical removal efficiency of 95%.

**Water** If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.  
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 84,6.

**Soil** Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

## Conditions and measures related to external treatment of waste for disposal

**Waste treatment** Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.

## Conditions and measures related to external recovery of waste

**Recovery method** This substance is consumed during use and no waste of the substance is generated.

## 2. Conditions of use affecting exposure (Industrial - Environment 2)

### Control of environmental exposure

CAS 91770-15-9 Kerosine (petroleum), sweetened

### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

### Amounts used

Fraction of EU tonnage used in region: 0.1  
Regional use tonnage: 540 000 tonnes/year  
Fraction of Regional tonnage used locally: 1  
Annual site tonnage: 540 000 tonnes  
Maximum daily site tonnage: 1 800 tonnes

### Frequency and duration of use

Continuous release.  
Emission days: 300 days/year

### Other given operational conditions affecting environmental exposure

**Emission factor - air** Release fraction to air from process (initial release prior to RMM): 0.05

**Emission factor - water** Release fraction to wastewater from process (initial release prior to RMM): 0.00001

**Emission factor - soil** Release fraction to soil from process (initial release prior to RMM): 0

### Environmental factors not influenced by risk management measures

**Dilution** Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

## Risk management measures

## Use as a fuel - Industrial

**Good practice** Common practices vary across sites, thus conservative process release estimates used.  
Risk from environmental exposure is driven by freshwater sediment.

**STP details** Estimated substance removal from wastewater via domestic sewage treatment: 95%  
Removal efficiency (total): 95%  
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2 100 tonne/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day):  
2 000.

### Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

**Air** Treat air emission to provide the required removal efficiency of 95%.

**Water** Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 94,2 If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.

**Soil** Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

### Conditions and measures related to external treatment of waste for disposal

**Waste treatment** Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations.

### Conditions and measures related to external recovery of waste

**Recovery method** This substance is consumed during use and no waste of the substance is generated.

## 2. Conditions of use affecting exposure (Workers - Health 1)

### Product characteristics

**Physical state** Liquid

**Vapour pressure** Vapour pressure 0.5 - 10 kPa at STP.

**Concentration details** Covers percentage substance in the product up to 100% (unless stated differently).

### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

### Other given operational conditions affecting workers exposure

**Setting** Assumes a good basic standard of occupational hygiene is implemented.

**Temperature** Assumes use at not more than 20°C above ambient temperature, unless stated differently.

### Risk management measures

General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) 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.  
No other specific measures identified.

## 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model. (Hydrocarbon Block Method)

## 4. Guidance to check compliance with the exposure scenario (Environment 1)

## Use as a fuel - Industrial

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. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet. (<http://cefic.org>)

### 3. Exposure estimation (Environment 2)

**Assessment method** CAS 91770-15-9 Kerosine (petroleum), sweetened:  
Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven  $RCR(\text{air}) \leq 0,028$   
Risk-driving RCR - water compartment driven  $RCR(\text{water}) \leq 0,86$

### 4. Guidance to check compliance with the exposure scenario (Environment 2)

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. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

### 3. Exposure estimation (Health 1)

**Assessment method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Available hazard data do not support the need for a DNEL to be established for other health effects.

### 4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Users are advised to consider national Occupational Exposure Limits or other equivalent values.

# Exposure scenario

## Use as a fuel - Professional

### Identification

**Product name** Jet Fuel (ID 20927; 20928)

**Version number** 2020

**Es reference** ES\_12b

### 1. Title of exposure scenario

**Main title** Use as a fuel - Professional

**Process scope** Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

#### Environment

**Environmental release category** ERC9a Widespread use of functional fluid (indoor)  
ERC9b Widespread use of functional fluid (outdoor)

**SPERC** ESVOC SPERC 9.12b.v1

#### Worker

**Process category** PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities  
PROC16 Use of fuels

### 2. Conditions of use affecting exposure (Industrial - Environment 1)

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

Fraction of EU tonnage used in region: 0.1  
Regional use tonnage: 4 400 000 tonnes/year  
Fraction of Regional tonnage used locally: 0.0005  
Annual site tonnage: 2 200 tonnes  
Maximum daily site tonnage: 6,1 tonnes

#### Frequency and duration of use

Continuous release.  
Emission days: 365 days/year

#### Other given operational conditions affecting environmental exposure

**Emission factor - air** Release fraction to air from process (initial release prior to RMM): 0,001

**Emission factor - water** Release fraction to wastewater from process (initial release prior to RMM): 0,00001

**Emission factor - soil** Release fraction to soil from process (initial release prior to RMM): 0,00001

#### Environmental factors not influenced by risk management measures

**Dilution** Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

# Use as a fuel - Professional

## Risk management measures

**Good practice** Common practices vary across sites, thus conservative process release estimates used.  
Risk from environmental exposure is driven by fresh water.

**STP details** Estimated substance removal from wastewater via domestic sewage treatment: 94,7%  
Removal efficiency (total): 94,7%  
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 690 tonne/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day):  
2 000.

## Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

**Air** No air emission controls required; required removal efficiency is 0%.

**Water** No wastewater treatment required.

**Soil** Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

## Conditions and measures related to external treatment of waste for disposal

**Waste treatment** Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.

## Conditions and measures related to external recovery of waste

**Recovery method** This substance is consumed during use and no waste of the substance is generated.

## 2. Conditions of use affecting exposure (Industrial - Environment 2)

### Control of environmental exposure

CAS 91770-15-9 Kerosine (petroleum), sweetened

### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

### Amounts used

Fraction of EU tonnage used in region: 0.1  
Regional use tonnage: 540 000 tonnes/year  
Fraction of Regional tonnage used locally: 1  
Annual site tonnage: 540 000 tonnes  
Maximum daily site tonnage: 1 800 tonnes

### Frequency and duration of use

Continuous release.  
Emission days: 300 days/year

### Other given operational conditions affecting environmental exposure

**Emission factor - air** Release fraction to air from process (initial release prior to RMM): 0.05

**Emission factor - water** Release fraction to wastewater from process (initial release prior to RMM): 0.00001

**Emission factor - soil** Release fraction to soil from process (initial release prior to RMM): 0

### Environmental factors not influenced by risk management measures

**Dilution** Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

## Risk management measures

**Good practice** Common practices vary across sites, thus conservative process release estimates used.  
Risk from environmental exposure is driven by freshwater sediment.

## Use as a fuel - Professional

<b>STP details</b>	Estimated substance removal from wastewater via domestic sewage treatment: 95% Removal efficiency (total): 95% Maximum allowable site tonnage (M <sub>safe</sub> ), based on release following total wastewater treatment removal: 2 100 tonne/day Assumed domestic sewage treatment plant flow (m <sup>3</sup> /day): 2 000.
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### Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

<b>Air</b>	Treat air emission to provide the required removal efficiency of 95%.
<b>Water</b>	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 94,2 If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
<b>Soil</b>	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

### Conditions and measures related to external treatment of waste for disposal

<b>Waste treatment</b>	Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations.
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### Conditions and measures related to external recovery of waste

<b>Recovery method</b>	This substance is consumed during use and no waste of the substance is generated.
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## 2. Conditions of use affecting exposure (Workers - Health 1)

### Product characteristics

<b>Physical state</b>	Liquid
<b>Vapour pressure</b>	Vapour pressure 0.5 - 10 kPa at STP.
<b>Concentration details</b>	Covers percentage substance in the product up to 100% (unless stated differently).

### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

### Other given operational conditions affecting workers exposure

<b>Setting</b>	Assumes a good basic standard of occupational hygiene is implemented.
<b>Temperature</b>	Assumes use at not more than 20°C above ambient temperature, unless stated differently.

### Risk management measures

General measures (skin irritants)  
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) 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.  
No other specific measures identified.

## 3. Exposure estimation (Environment 1)

<b>Assessment method</b>	Used Petrorisk model. (Hydrocarbon Block Method)
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## 4. Guidance to check compliance with the exposure scenario (Environment 1)

## Use as a fuel - Professional

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. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet. (<http://cefic.org>)

### 3. Exposure estimation (Environment 2)

**Assessment method** CAS 91770-15-9 Kerosine (petroleum), sweetened:  
Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven  $RCR(\text{air}) \leq 0,028$   
Risk-driving RCR - water compartment driven  $RCR(\text{water}) \leq 0,86$

### 4. Guidance to check compliance with the exposure scenario (Environment 2)

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. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

### 3. Exposure estimation (Health 1)

**Assessment method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

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### 4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Users are advised to consider national Occupational Exposure Limits or other equivalent values.