

# RAGNAROK ZERO

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830  
Issue date: 9/28/2020 Version: 1.0

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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : RAGNAROK ZERO

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

##### 1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use

##### 1.2.2. Uses advised against

No additional information available

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

Comunica Concept  
10 rue François Durafour  
42160 Andrézieux Bouthéon - FRANCE  
T 04.77.40.09.71  
[contact@aromes-et-liquides.fr](mailto:contact@aromes-et-liquides.fr)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	

### 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 sensitisation, Category 1 H317

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. May cause an allergic skin reaction.

#### 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Warning

Contains

: (E)-1-(2,6,6-trimethyl-1,3-cyclohexadien-1-yl)-2-buten-1-one; 4-hydroxy-2,5-dimethylfuran-2(3H)-one; Methyl cinnamate

Hazard statements (CLP)

: H226 - Flammable liquid and vapour.  
H317 - May cause an allergic skin reaction.

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P261 - Avoid breathing vapours.  
P280 - Wear protective gloves, eye protection, face protection.  
P321 - Specific treatment (see supplemental first aid instruction on this label).  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.

#### 2.3. Other hazards

No additional information available

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
acetic acid 99%	(CAS-No.) 64-19-7 (EC-No.) 200-580-7 (EC Index-No.) 607-002-00-6	0.9 – 2	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318
ethyl butyrate	(CAS-No.) 105-54-4	0.9 – 2	Flam. Liq. 3, H226 Eye Irrit. 2, H319
ethyl acetate	(CAS-No.) 141-78-6 (EC-No.) 205-500-4 (EC Index-No.) 607-022-00-5	0.9 – 2	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Methyl cinnamate	(CAS-No.) 103-26-4 (EC-No.) 203-093-8	0.1 – 0.9	Skin Sens. 1B, H317
4-hydroxy-2,5-dimethylfuran-2(3H)-one	(CAS-No.) 3658-77-3	0.1 – 0.9	Acute Tox. 4 (Oral), H302 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317
propionic acid 99% substance with a Community workplace exposure limit	(CAS-No.) 79-09-4 (EC-No.) 201-176-3 (EC Index-No.) 607-089-00-0	0.1 – 0.9	Flam. Liq. 3, H226 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335
isopentyl acetate substance with a Community workplace exposure limit	(CAS-No.) 123-92-2 (EC-No.) 204-662-3 (EC Index-No.) 607-130-00-2 (REACH-no) 01-2119548408-32	< 0.1	Flam. Liq. 3, H226
(E)-1-(2,6,6-trimethyl-1,3-cyclohexadien-1-yl)-2-buten-1-one	(CAS-No.) 23726-93-4	< 0.1	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411
isoamyl alcohol substance with a Community workplace exposure limit	(CAS-No.) 123-51-3 (EC-No.) 204-633-5	< 0.1	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
n-butyl acetate substance with a Community workplace exposure limit	(CAS-No.) 123-86-4 (EC-No.) 204-658-1 (EC Index-No.) 607-025-00-1	< 0.1	Flam. Liq. 3, H226 STOT SE 3, H336
isobutyl acetate substance with a Community workplace exposure limit	(CAS-No.) 110-19-0 (EC-No.) 203-745-1 (EC Index-No.) 607-026-00-7	< 0.1	Flam. Liq. 2, H225

#### Specific concentration limits:

Name	Product identifier	Specific concentration limits
acetic acid 99%	(CAS-No.) 64-19-7 (EC-No.) 200-580-7 (EC Index-No.) 607-002-00-6	( 10 ≤ C < 25) Skin Irrit. 2, H315 ( 10 ≤ C < 25) Eye Irrit. 2, H319 ( 25 ≤ C < 90) Skin Corr. 1B, H314 ( 90 ≤ C ≤ 100) Skin Corr. 1A, H314

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propionic acid 99%	(CAS-No.) 79-09-4 (EC-No.) 201-176-3 (EC Index-No.) 607-089-00-0	( 10 ≤C < 25) Skin Irrit. 2, H315 ( 10 ≤C < 25) Eye Irrit. 2, H319 ( 10 ≤C ≤ 100) STOT SE 3, H335 ( 25 ≤C ≤ 100) Skin Corr. 1B, H314
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Full text of H-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact	: May cause an allergic skin reaction.
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#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
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#### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable liquid and vapour.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

#### 5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.
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##### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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#### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.
Hygiene measures	: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures	: Ground/bond container and receiving equipment.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

ethyl acetate (141-78-6)	
EU - Occupational Exposure Limits	
Local name	Ethyl acetate
IOELV TWA (mg/m <sup>3</sup> )	734 mg/m <sup>3</sup>
IOELV TWA (ppm)	200 ppm
IOELV STEL (mg/m <sup>3</sup> )	1468 mg/m <sup>3</sup>
IOELV STEL (ppm)	400 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164

acetic acid 99% (64-19-7)	
EU - Occupational Exposure Limits	
Local name	Acetic acid
IOELV TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
IOELV TWA (ppm)	10 ppm
IOELV STEL (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
IOELV STEL (ppm)	20 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164

isobutyl acetate (110-19-0)	
EU - Occupational Exposure Limits	
Local name	Isobutyl acetate
IOELV TWA (mg/m <sup>3</sup> )	241 mg/m <sup>3</sup>
IOELV TWA (ppm)	50 ppm
IOELV STEL (mg/m <sup>3</sup> )	723 mg/m <sup>3</sup>
IOELV STEL (ppm)	150 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2019/1831

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isopentyl acetate (123-92-2)	
EU - Occupational Exposure Limits	
Local name	Isopentylacetate
IOELV TWA (mg/m <sup>3</sup> )	270 mg/m <sup>3</sup>
IOELV TWA (ppm)	50 ppm
IOELV STEL (mg/m <sup>3</sup> )	540 mg/m <sup>3</sup>
IOELV STEL (ppm)	100 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC

isoamylic alcohol (123-51-3)	
EU - Occupational Exposure Limits	
Local name	Isoamyl alcohol
IOELV TWA (mg/m <sup>3</sup> )	18 mg/m <sup>3</sup>
IOELV TWA (ppm)	5 ppm
IOELV STEL (mg/m <sup>3</sup> )	37 mg/m <sup>3</sup>
IOELV STEL (ppm)	10 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2019/1831

n-butyl acetate (123-86-4)	
EU - Occupational Exposure Limits	
Local name	n-Butyl acetate
IOELV TWA (mg/m <sup>3</sup> )	241 mg/m <sup>3</sup>
IOELV TWA (ppm)	50 ppm
IOELV STEL (mg/m <sup>3</sup> )	723 mg/m <sup>3</sup>
IOELV STEL (ppm)	150 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2019/1831

propionic acid 99% (79-09-4)	
EU - Occupational Exposure Limits	
Local name	Propionic acid
IOELV TWA (mg/m <sup>3</sup> )	31 mg/m <sup>3</sup>
IOELV TWA (ppm)	10 ppm
IOELV STEL (mg/m <sup>3</sup> )	62 mg/m <sup>3</sup>
IOELV STEL (ppm)	20 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:
Protective gloves

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### Eye protection:

Safety glasses

### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

### Personal protective equipment symbol(s):



### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Colour	: Colourless.
Odour	: characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 47 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1.03 (1.01 – 1.05)
Solubility	: soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Flammable liquid and vapour.

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### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

### 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 toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

ethyl acetate (141-78-6)	
LD50 oral	4934 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 20000 mg/kg bodyweight Animal: rabbit, Animal sex: male

acetic acid 99% (64-19-7)	
LD50 oral rat	3310 mg/kg bodyweight Animal: rat
LD50 oral	4960 mg/kg bodyweight Animal: mouse

isobutyl acetate (110-19-0)	
LD50 oral rat	13413 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 17400 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

isoamyl alcohol (123-51-3)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	≈ 3216 mg/kg bodyweight Animal: rabbit, Animal sex: male, 95% CL: 2373 - 4350

(E)-1-(2,6,6-trimethyl-1,3-cyclohexadien-1-yl)-2-buten-1-one (23726-93-4)	
LD50 oral rat	> 2000 mg/kg

Methyl cinnamate (103-26-4)	
LD50 oral rat	2610 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2000 - 3410
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

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<b>propionic acid 99% (79-09-4)</b>	
LD50 oral rat	3455.1 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2978,9 - 4007,5
LD50 dermal rat	3235 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 inhalation rat (mg/l)	> 20 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

<b>ethyl acetate (141-78-6)</b>	
LOAEL (oral, rat, 90 days)	3600 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test)
NOAEL (oral, rat, 90 days)	900 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test)

<b>acetic acid 99% (64-19-7)</b>	
NOAEL (oral, rat, 90 days)	290 mg/kg bodyweight Animal: rat, Animal sex: male

<b>isoamyl alcohol (123-51-3)</b>	
NOAEL (oral, rat, 90 days)	1250 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

<b>(E)-1-(2,6,6-trimethyl-1,3-cyclohexadien-1-yl)-2-buten-1-one (23726-93-4)</b>	
LOAEL (oral, rat, 90 days)	30 mg/kg bodyweight/day

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified
Not rapidly degradable	



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<b>ethyl acetate (141-78-6)</b>	
LC50 fish 1	230 mg/l Test organisms (species): Pimephales promelas
NOEC (chronic)	2.4 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

<b>acetic acid 99% (64-19-7)</b>	
LC50 fish 1	> 1000 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 fish 2	> 300.82 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 Daphnia 1	> 1000 mg/l Test organisms (species): Daphnia magna
EC50 Daphnia 2	> 300.82 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	> 1000 mg/l Test organisms (species): Skeletonema costatum
EC50 72h algae (2)	> 300.82 mg/l Test organisms (species): Skeletonema costatum

<b>isobutyl acetate (110-19-0)</b>	
LC50 fish 1	17 mg/l Test organisms (species): Oryzias latipes
EC50 Daphnia 1	25 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	370 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h algae (2)	250 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	23 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

<b>isopentyl acetate (123-92-2)</b>	
LC50 fish 1	22 – 46 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 Daphnia 1	42 mg/l Test organisms (species): other:Daphnia magna STRAUS

<b>isoamylic alcohol (123-51-3)</b>	
LC50 fish 1	700 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 Daphnia 1	255 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	> 500 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h algae (2)	493 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h algae (1)	274 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h algae (2)	181 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

<b>(E)-1-(2,6,6-trimethyl-1,3-cyclohexadien-1-yl)-2-buten-1-one (23726-93-4)</b>	
LC50 fish 1	1.09 mg/l
EC50 Daphnia 1	9 mg/l
EC50 72h algae (1)	8.3 mg/l

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<b>n-butyl acetate (123-86-4)</b>	
LC50 fish 1	18 mg/l Test organisms (species): Pimephales promelas
EC50 Daphnia 1	44 mg/l Test organisms (species): Daphnia sp.
EC50 72h algae (1)	674.7 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC (chronic)	23 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

<b>Methyl cinnamate (103-26-4)</b>	
LC50 fish 1	2.76 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 Daphnia 1	24 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	7.6 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

<b>propionic acid 99% (79-09-4)</b>	
LC50 fish 1	> 10000 mg/l Test organisms (species): Leuciscus idus
EC50 Daphnia 1	> 500 mg/l Test organisms (species): Daphnia magna
EC50 72h algae (1)	> 500 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapours may accumulate in the container.

## SECTION 14: Transport information




In accordance with ADR / RID / IMDG / IATA / ADN

<b>ADR</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1. UN number</b>		
UN 1197	UN 1197	UN 1197
<b>14.2. UN proper shipping name</b>		
EXTRACTS, FLAVOURING, LIQUID	EXTRACTS, FLAVOURING, LIQUID	Extracts, flavouring, liquid

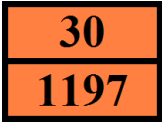
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Transport document description		
UN 1197 EXTRACTS, FLAVOURING, LIQUID, 3, III, (D/E)	UN 1197 EXTRACTS, FLAVOURING, LIQUID, 3, III	UN 1197 Extracts, flavouring, liquid, 3, III
14.3. Transport hazard class(es)		
3	3	3
		
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		
14.6. Special precautions for user		

### Overland transport

Classification code (ADR)	: F1
Special provisions (ADR)	: 601
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T2
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Operation (ADR)	: S2
Hazard identification number (Kemler No.)	: 30
Orange plates	: 

Tunnel restriction code (ADR)	: D/E
EAC code	: 3YE

### Transport by sea

Special provisions (IMDG)	: 223, 955
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T2

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Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-D
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: Usually consist of alcoholic solutions. Miscibility with water depends upon the composition.

### Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y344
PCA limited quantity max net quantity (IATA)	: 10L
PCA packing instructions (IATA)	: 355
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 366
CAO max net quantity (IATA)	: 220L
Special provisions (IATA)	: A3
ERG code (IATA)	: 3L

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard

# RAGNAROK ZERO

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Full text of H- and EUH-statements:	
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1A	Skin sensitisation, category 1A
Skin Sens. 1B	Skin sensitisation, category 1B
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
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.

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H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.