SAFETY DATA SHEET



RENO GRUND NORDIC 3338-00

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

1.1 Product identifier

Product name : RENO GRUND NORDIC 3338-00

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

Product use : Paint.

1.3 Details of the supplier of the safety data sheet

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

e-mail address of person :

responsible for this SDS

: Prod-safe@teknos.com

National contact

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : In an emergency, call 112

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]

Flam. Liq. 2, H225 Eye Irrit. 2, H319

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.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms





Signal word : Danger

Hazard statements : H225 - Highly flammable liquid and vapour.

H319 - Causes serious eye irritation.

Precautionary statements

Prevention: P280 - Wear eye or face protection.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition

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sources. No smoking.

Response : P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage : Not applicable.

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

national and international regulations.

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SECTION 2: Hazards identification

Supplemental label elements

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and

2.3 Other hazards

articles

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

: This mixture does not contain any substances that are assessed to be a PBT or a

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Туре
Ethanol	REACH #: 01-2119457610-43 EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	≥75 - ≤90	Flam. Liq. 2, H225 Eye Irrit. 2, H319	-	[1]
Butanone	REACH #: 01-2119457290-43 EC: 201-159-0 CAS: 78-93-3 Index: 606-002-00-3	≤10	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	-	[1] [2]
			See Section 16 for the full text of the H statements declared above.		

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.

- [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

: 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. Get medical attention.

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.

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SECTION 4: First aid measures

Skin contact

: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. 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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

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

: Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous combustion products

: Decomposition products may include the following materials: carbon dioxide carbon monoxide

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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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.

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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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders:

If specialised 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 spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with noncombustible, 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 spilt 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

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

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

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SECTION 7: Handling and storage

Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidising materials. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

Seveso Directive - Reporting thresholds

Danger criteria

	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonne	50000 tonne

7.3 Specific end use(s)

solutions

Recommendations : Not available. **Industrial sector specific** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
No exposure limit value known.	
Ethanol	Limit values (Belgium, 5/2021).
	TWA: 1000 ppm 8 hours.
	TWA: 1907 mg/m³ 8 hours.
Butanone	Limit values (Belgium, 5/2021).
	TWA: 200 ppm 8 hours.
	TWA: 600 mg/m ³ 8 hours.
	STEL: 300 ppm 15 minutes.
	STEL: 900 mg/m³ 15 minutes.
Ethanol	Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). Limit value 8 hours: 1000 mg/m³ 8 hours.
Butanone	Ministry of Labour and Social Policy and the Ministry of
	Health - Ordinance No 13/2003. (Bulgaria, 6/2021).
	Limit value 8 hours: 590 mg/m³ 8 hours.
	Limit value 15 min: 885 mg/m³ 15 minutes.
Ethanol	Ministry of Economy, Labour and Entrepreneurship ELV/
	STELV (Croatia, 1/2021).
	ELV: 1900 mg/m ³ 8 hours.
	ELV: 1000 ppm 8 hours.
Butanone	Ministry of Economy, Labour and Entrepreneurship ELV/
	STELV (Croatia, 1/2021).
	STELV: 900 mg/m³ 15 minutes.
	STELV: 300 ppm 15 minutes.
	ELV: 600 mg/m³ 8 hours.
	ELV: 200 ppm 8 hours.
No exposure limit value known.	
No exposure limit value known.	
	1

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Ethanol Working Environment Authority (Denmark, 6/2022).

TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. STEL: 3800 mg/m³ 15 minutes. STEL: 2000 ppm 15 minutes.

Butanone Working Environment Authority (Denmark, 6/2022). Absorbed

through skin.

TWA: 50 ppm 8 hours. TWA: 145 mg/m³ 8 hours. STEL: 900 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes.

Ethanol Occupational exposure limits, Regulation No. 293 (Estonia,

12/2022).

TWA: 1000 mg/m³ 8 hours. TWA: 500 ppm 8 hours. STEL: 1900 mg/m³ 15 minutes. STEL: 1000 ppm 15 minutes.

Butanone Occupational exposure limits, Regulation No. 293 (Estonia,

12/2022).

TWA: 600 mg/m³ 8 hours. TWA: 200 ppm 8 hours. STEL: 900 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes.

Butanone EU OEL (Europe, 1/2022). Notes: list of indicative

occupational exposure limit values

TWA: 200 ppm 8 hours. TWA: 600 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 900 mg/m³ 15 minutes.

No exposure limit value known.

Ethanol Ministry of Labor (France, 10/2022). Notes: Permissible limit

values (circulars)

TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. STEL: 5000 ppm 15 minutes. STEL: 9500 mg/m³ 15 minutes.

Ministry of Labor (France, 10/2022). Absorbed through skin. Butanone

Notes: Binding regulatory limit values (article R. 4412-149 of

the Labor Code)

TWA: 200 ppm 8 hours. TWA: 600 mg/m³ 8 hours. STEL: 900 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes.

Ethanol TRGS 900 OEL (Germany, 6/2022).

TWA: 380 mg/m³ 8 hours. PEAK: 1520 mg/m³ 15 minutes. TWA: 200 ppm 8 hours. PEAK: 800 ppm 15 minutes.

DFG MAC-values list (Germany, 7/2022).

TWA: 200 ppm 8 hours.

PEAK: 800 ppm, 4 times per shift, 15 minutes.

TWA: 380 mg/m³ 8 hours.

PEAK: 1520 mg/m³, 4 times per shift, 15 minutes.

TRGS 900 OEL (Germany, 6/2022). Absorbed through skin.

TWA: 600 mg/m³ 8 hours. PEAK: 600 mg/m³ 15 minutes. TWA: 200 ppm 8 hours. PEAK: 200 ppm 15 minutes.

DFG MAC-values list (Germany, 7/2022). Absorbed through

skin.

TWA: 200 ppm 8 hours.

PEAK: 200 ppm, 4 times per shift, 15 minutes.

TWA: 600 mg/m³ 8 hours.

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Butanone

No exposure limit value known.

No exposure limit value known.

Ethanol Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021).

TWA: 1900 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.

Butanone Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021).

Absorbed through skin.
STEL: 900 mg/m³ 15 minutes.
STEL: 300 ppm 15 minutes.
TWA: 145 mg/m³ 8 hours.
TWA: 50 ppm 8 hours.

Ethanol NAOSH (Ireland, 5/2021). Notes: Advisory Occupational

Exposure Limit Values (OELVs)
OELV-15min: 1000 ppm 15 minutes.

Butanone NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: EU

derived Occupational Exposure Limit Values

PEAK: 600 mg/m³, 4 times per shift, 15 minutes.

OELV-8hr: 200 ppm 8 hours. OELV-8hr: 600 mg/m³ 8 hours. OELV-15min: 300 ppm 15 minutes. OELV-15min: 900 mg/m³ 15 minutes.

Butanone Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020).

8 hours: 200 ppm 8 hours. 8 hours: 600 mg/m³ 8 hours. Short Term: 300 ppm 15 minutes. Short Term: 900 mg/m³ 15 minutes.

Ethanol Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021).

TWA: 1000 mg/m³ 8 hours.

Butanone Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021).

STEL: 300 ppm 15 minutes. TWA: 67 ppm 8 hours. STEL: 900 mg/m³ 15 minutes. TWA: 200 mg/m³ 8 hours.

Ethanol Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).

TWA: 1000 mg/m³ 8 hours. TWA: 500 ppm 8 hours. STEL: 1900 mg/m³ 15 minutes. STEL: 1000 ppm 15 minutes.

Butanone Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).

TWA: 600 mg/m³ 8 hours. TWA: 200 ppm 8 hours. STEL: 900 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes.

Butanone Grand-Duchy Regulation 2016. Chemical agents. Annex I

TWA: 200 ppm 8 hours. TWA: 600 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 900 mg/m³ 15 minutes.

(Luxembourg, 3/2021).

Butanone EU OEL (Europe, 1/2022). Notes: list of indicative

occupational exposure limit values

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TWA: 200 ppm 8 hours. TWA: 600 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 900 mg/m³ 15 minutes.

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Ethanol

Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 12/2022). Absorbed through skin.

OEL, 8-h TWA: 260 mg/m³ 8 hours. STEL,15-min: 1900 mg/m3 15 minutes. STEL,15-min: 1000 ppm 15 minutes. OEL, 8-h TWA: 137 ppm 8 hours.

Butanone

Ministry of Social Affairs and Employment, Legal limit values

(Netherlands, 12/2022). Absorbed through skin.

OEL, 8-h TWA: 590 mg/m³ 8 hours. STEL,15-min: 900 mg/m³ 15 minutes. OEL, 8-h TWA: 197 ppm 8 hours. STEL,15-min: 300 ppm 15 minutes.

Ethanol

FOR-2011-12-06-1358 (Norway, 12/2022).

TWA: 500 ppm 8 hours. TWA: 950 mg/m³ 8 hours.

Butanone

FOR-2011-12-06-1358 (Norway, 12/2022). Notes: indicative

limit value

TWA: 75 ppm 8 hours. TWA: 220 mg/m³ 8 hours.

Ethanol

Regulation of the Minister of Family, Labor and Social Policy of 18 February 2021, regarding the highest permissible concentrations and values of agents harmful to health in the work environment (Journal of Laws 2021, item 325) (Poland, 2/2021).

TWA: 1900 mg/m³ 8 hours.

Butanone

Regulation of the Minister of Family, Labor and Social Policy of 18 February 2021, regarding the highest permissible concentrations and values of agents harmful to health in the work environment (Journal of Laws 2021, item 325) (Poland, 2/2021). Absorbed through skin.

TWA: 450 mg/m³ 8 hours. STEL: 900 mg/m³ 15 minutes.

No exposure limit value known.

No exposure limit value known.

Ethanol Government regulation SR c. 355/2006 (Slovakia, 9/2020).

> TWA: 960 mg/m³ 8 hours. TWA: 500 ppm 8 hours. STEL: 1920 mg/m³ 15 minutes. STEL: 1000 ppm 15 minutes.

Butanone

Government regulation SR c. 355/2006 (Slovakia, 9/2020).

TWA: 600 mg/m³ 8 hours. TWA: 200 ppm 8 hours. STEL: 900 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes.

Ethanol

Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021).

TWA: 960 mg/m³ 8 hours. TWA: 500 ppm 8 hours.

KTV: 1920 mg/m³, 4 times per shift, 15 minutes. KTV: 1000 ppm, 4 times per shift, 15 minutes.

Regulation on protection of workers from the risks related to Butanone exposure to chemical substances at work (Slovenia, 5/2021). Absorbed through skin.

> TWA: 600 mg/m³ 8 hours. TWA: 200 ppm 8 hours.

KTV: 900 mg/m³, 4 times per shift, 15 minutes. KTV: 300 ppm, 4 times per shift, 15 minutes.

No exposure limit value known.

No exposure limit value known.

No exposure limit value known.

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[Fth amal	F1140/2005 WFL a (United Kingdom (UK) 4/2020)				
Ethanol	EH40/2005 WELs (United Kingdom (UK), 1/2020).				
	TWA: 1000 ppm 8 hours.				
	TWA: 1920 mg/m ³ 8 hours.				
Butanone	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed				
	through skin.				
	STEL: 899 mg/m³ 15 minutes.				
	STEL: 300 ppm 15 minutes.				
	TWA: 600 mg/m³ 8 hours.				
	TWA: 200 ppm 8 hours.				
2-Methoxy-1-methylethyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed				
	through skin.				
	STEL: 548 mg/m³ 15 minutes.				
	TWA: 50 ppm 8 hours.				
	TWA: 274 mg/m³ 8 hours.				
	STEL: 100 ppm 15 minutes.				
n-Butyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020).				
	STEL: 966 mg/m³ 15 minutes.				
	STEL: 200 ppm 15 minutes.				
	TWA: 724 mg/m ³ 8 hours.				
	TWA: 150 ppm 8 hours.				

Biological exposure indices

Product/ingredient name	Exposure indices
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
Butanone	Ministry of Economy, Labour and Entrepreneurship ILV/STEL (Croatia, 10/2018) BEI: 2.6 mg/g creatinine, ethyl-methyl ketone [in urine]. Sampling time: at the end of the work shift. BEI: 4.08 mmol/mol creatinine, ethyl-methyl ketone [in urine]. Sampling time: at the end of the work shift.
No exposure indices known.	
Butanone	DFG BEI-values list (Germany, 7/2022) Notes: danger from percutaneous absorption (see p. 211 and p. 228). BEI: 2 mg/l, 2-butanone [in urine]. Sampling time: end of exposure or end of shift. TRGS 903 - BEI Values (Germany, 2/2022) BEI: 2 mg/l, 2-butanone [in urine]. Sampling time: end of exposure or end of shift.
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
Butanone	NAOSH (Ireland, 1/2011) BMGV: 70 μmol/l, butan-2- one [in urine]. Sampling time: post shift.
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	

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No exposure indices known.

Butanone

No exposure indices known. No exposure indices known. No exposure indices known.

Butanone

Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021) BAT: 2 mg/l, 2-butanone [in urine]. Sampling time: at the end of the work shift.

EH40/2005 BMGVs (United Kingdom (UK), 8/2018)

BGV: 70 µmol/l, butan-2-one [in urine]. Sampling time: post shift.

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.

DNELs/DMELs

Product/ingredient name	Туре	Exposure	Value	Population	Effects
Ethanol	DNEL	Long term Oral	87 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	114 mg/m³	General population	Systemic
	DNEL	Long term Dermal	206 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	343 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	950 mg/m³	General population	Local
	DNEL	Long term Inhalation	950 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	1900 mg/ m³	Workers	Local
Butanone	DNEL	Long term Oral	31 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	106 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	412 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	600 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	1161 mg/ kg bw/day	Workers	Systemic

PNECs

No PNECs available

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8.2 Exposure controls

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

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.

Recommendations: Wear suitable gloves tested to EN374.

< 1 hour (breakthrough time): Nitrile gloves. thickness > 0.3 mm

1 - 4 hours (breakthrough time): 4H / Silver Shield® gloves.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Filter type: A

Filter type (spray application): A P

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.

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SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state: Liquid.Colour: Colourless.Odour: Slight

Odour threshold : Not available.

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SECTION 9: Physical and chemical properties

Melting point/freezing point : Not available.

Initial boiling point and boiling range

Ingredient name	°C	°F	Method
Ethanol	78.29	172.9	
Butanone	79.59	175.3	

Flammability : Not available. Lower and upper explosion : Lower: 1.8% Upper: 19% limit

: Closed cup: 13°C (55.4°F) Flash point

Auto-ignition temperature

Ingredient name	°C	°F	Method
Butanone	404	759.2	
Ethanol	455	851	DIN 51794

Decomposition temperature : Not available. : Not applicable. **Viscosity** : Not available.

Solubility(ies)

Not available.

Solubility in water : Not available. Partition coefficient: n-octanol/ : Not applicable.

Vapour pressure

	Va	Vapour Pressure at 20°C			Vapour pressure at 50°C		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method	
Butanone	78.7564	10.5					
Ethanol	42.94865	5.7					

Relative density : Not available. : 0.8 g/cm³ **Density** Vapour density : Not available. **Explosive properties** : Not available. **Oxidising properties** Not available.

Particle characteristics

Median particle size : Not applicable.

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 : The product is stable.

10.3 Possibility of : Under normal conditions of storage and use, hazardous reactions will not occur. hazardous reactions

10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials : Reactive or incompatible with the following materials: oxidising materials

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SECTION 10: Stability and reactivity

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/ingredient name	Result	Species	Dose	Exposure
Ethanol	LC50 Inhalation Vapour	Rat	124700 mg/m ³	4 hours
	LD50 Oral	Rat	7 g/kg	-
Butanone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-

Conclusion/Summary

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

Acute toxicity estimates

Route	ATE value		
Not available.			

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500	-
				mg	
	Eyes - Moderate irritant	Rabbit	-	0.066666667	-
				minutes 100	
				mg	
	Eyes - Moderate irritant	Rabbit	-	100 uL	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	400 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20	-
				mg	
Butanone	Skin - Mild irritant	Rabbit	-	24 hours 14	-
				mg	
	Skin - Moderate irritant	Rabbit	-	24 hours 500	-
				mg	

Conclusion/Summary

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

Sensitisation

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

Mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

Teratogenicity

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

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Butanone	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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SECTION 11: Toxicological information

Information on likely routes : Not available.

of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards. : No known significant effects or critical hazards. **Skin contact** Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

: Adverse symptoms may include the following: **Eye contact**

> pain or irritation watering redness

Inhalation : No specific data. Skin contact : No specific data. : No specific data. Ingestion

Delayed and immediate effects as well as 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. : Not available.

Potential delayed effects Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

: No known significant effects or critical hazards. General 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

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Ethanol	Acute EC50 17.921 mg/l Marine water	Algae - <i>Ulva pertusa</i>	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 100 ul/L Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	21 days
	Chronic NOEC 0.375 ul/L Fresh water	Fish - Gambusia holbrooki -	12 weeks

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SECTION 12: Ecological information Larvae Butanone Acute EC50 >500000 µg/l Marine water 96 hours Algae - Skeletonema costatum Acute EC50 5091000 µg/l Fresh water Daphnia - Daphnia magna -48 hours Larvae Acute LC50 3220000 µg/l Fresh water 96 hours Fish - Pimephales promelas

Conclusion/Summary

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

12.2 Persistence and degradability

Conclusion/Summary

: This product has not been tested for biodegradation.

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Ethanol	-0.35	-	Low
Butanone	0.3	-	Low

12.4 Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Mobility

: Not available.

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.

12.6 Endocrine disrupting properties

Not available.

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 minimised 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. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

: The classification of the product may meet the criteria for a hazardous waste.

Hazardous waste

: 08.01.11

European waste catalogue (EWC)

Packaging

Methods of disposal

: The generation of waste should be avoided or minimised 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN1993	UN1993	UN1993	UN1993
14.2 UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (butanone)	FLAMMABLE LIQUID, N.O.S. (ethanol, butanone)	FLAMMABLE LIQUID, N.O.S. (2-methoxy- 1-methylethyl acetate)	FLAMMABLE LIQUID, N.O.S. (2-methoxy- 1-methylethyl acetate)
14.3 Transport hazard class(es)	3	3	3	3
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

ADR/RID : Special provisions 640 (C)

Tunnel code (D/E)

ADN : The product is only regulated as an environmentally hazardous substance when

> transported in tank vessels. Special provisions 640 (C)

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

: The environmentally hazardous substance mark may appear if required by other

transportation regulations.

14.6 Special precautions for

IATA

: 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 relevant/applicable due to nature of the product.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

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

Product/ingredient name	%	Designation [Usage]
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Labelling

Other EU regulations

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SECTION 15: Regulatory information

: Not listed **Industrial emissions** (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 controlled under the Seveso Directive.

Danger criteria

Category

P₅c

National regulations

Austria

Czech Republic

Denmark

Danish fire class : I-1 **MAL-code** 2-1

Protection based on MAL

: According to the regulations on work involving coded products, the following stipulations apply to the use of personal protective equipment:

General: Gloves must be worn for all work that may result in soiling. Apron/ coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. A face shield must be worn in work involving spattering if a full mask is not required. In this case, other recommended use of eye protection is not required.

In all spraying operations in which there is return spray, respiratory protection with air supply and arm protectors/apron/coveralls/protective clothing must be worn as appropriate or as instructed.

MAL-code: 2-1

Application: When using scraper or knife, brush, roller, etc, for pre- and posttreatments in cabins or booths of the existing* facility type, if the operator is inside the spray zone. When using scraper or knife, brush, roller, etc. for pre- and posttreatments outside a closed facility, spray booth or spray cabin.

- Air-supplied half mask must be worn.

When spraying in existing* spray booths, if the operator is outside the spray zone.

- Air-supplied half mask, arm protectors and eye protection must be worn.

During non-atomising spraying in existing* facilities of the combined-cabin, spraycabin and spray-booth type where the operator is working inside the spray zone. During downtimes, cleaning and repair in closed facilities, spray booths or cabins, if there is a risk of contact with wet paint or organic solvents.

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- Air-supplied half mask and eye protection must be worn.

During all spraying where atomisation occurs in cabins or spray booths where the operator is inside the spray zone and during spraying outside a closed facility, cabin or booth.

- Air-supplied half mask, eye protection, coveralls and hood must be worn.

Drying: Items for drying/drying ovens that are temporarily placed on such things as rack trolleys, etc, must be equipped with a mechanical exhaust system to prevent fumes from wet items from passing through workers' inhalation zone.

Polishing: When polishing treated surfaces, a mask with dust filter must be worn. When machine grinding, eye protection must be worn. Work gloves must always be worn.

Caution The regulations contain other stipulations in addition to the above.

*See Regulations.

Low-boiling liquids

: This product contains low-boiling point liquids. Any respiratory protective equipment should be air-fed.

Restrictions on use

: Not to be used by professional users below 18 years of age. See the National Working Environment Authorities Executive Order regarding Young People At Work.

List of undesirable substances

: Not listed

Finland France

Social Security Code, Articles L 461-1 to L 461-7

: Ethanol

RG 84 Butanone **RG 84**

Reinforced medical surveillance

: Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance: not applicable

Germany

Storage class (TRGS 510) : 3 **Hazardous incident ordinance**

This product is controlled under the Germany Hazardous Incident Ordinance.

Danger criteria

Category	Reference number
P5c	1.2.5.3

Hazard class for water

Technical instruction on air quality control

: TA-Luft Number 5.2.5: 88.6%

<u>Italy</u>

D.Lgs. 152/06 : Not determined.

Netherlands

Ministry of Social Affairs and Employment (SZW) - Carcinogenic substances and processes, mutagenic or reprotoxic substances

Ingredient name	Carcinogen		Reproductive toxicity - Fertility		Harmful via breastfeeding
ethanol	Listed	-	Fertility 1A	Development 1A	Listed

Water Discharge Policy (ABM)

: A(2) Toxic for aquatic organisms, may have long-term hazardous effects in aquatic environment. Decontamination effort: A

Norway

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SECTION 15: Regulatory information

Sweden

Switzerland

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not 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.

15.2 Chemical safety assessment

: This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and

acronyms

: ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No.

1272/2008]

DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

N/A = Not available

PBT = Persistent. Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number

SGG = Segregation Group

vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Flam. Liq. 2, H225 Eye Irrit. 2, H319	On basis of test data Calculation method

Full text of abbreviated H statements

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Full text of classifications [CLP/GHS]

Eye Irrit. 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

Flam. Liq. 2 FLAMMABLE LIQUIDS - Category 2

STOT SE 3 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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SECTION 16: Other information

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

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