

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

1.1. Product identifier

Product form : Substance
Trade name : ARTICLEAN 02
Type of product : Solvents

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Rewah NV
Nijverheidsweg 24
B-2240 Zandhoven
Belgique-België
T +32 (0)3 475 14 14
info@rewah.com, www.rewah.com

1.4. Emergency telephone number

Emergency number : +32 (0)70 245 245

Country/Area	Organisation/Company	Address	Emergency number	Comment
Belgium	Centre Anti-Poisons/Antigifcentrum c/o Hôpital Central de la Base - Reine Astrid	Rue Bruyn 1 1120 Bruxelles/Brussel	+ 32 (0)70 245 245	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 2 H225
Eye Irrit. 2 H319
STOT SE 3 H336

Full text of hazard classes, H- and EUH-statements: see section 16

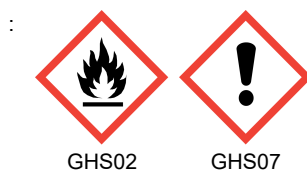
Adverse physicochemical, human health and environmental effects

Can form explosive mixtures with air. Heavier than air, vapours may travel long distances along ground, ignite and flash back to source. Static-accumulating flammable liquid. The substance/mixture has no endocrine disrupting properties.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

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Hazard statements (CLP)	: H319 - Causes serious eye irritation. H336 - May cause drowsiness or dizziness. H225 - Highly flammable liquid and vapour.
Precautionary statements (CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames, other ignition sources. No smoking. P261 - Avoid breathing vapours, spray. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
EUH-statements	: EUH066 - Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : ARTICLEAN 02

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
butanone; ethyl methyl ketone	CAS-No.: 78-93-3 EC-No.: 201-159-0 EC Index-No.: 606-002-00-3	$\geq 90 - \leq 100$	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Full text of H- and EUH-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Show the SDS and label to the doctor.
First-aid measures after inhalation	: Move the affected person to the fresh air. Get medical attention if any discomfort continues.
First-aid measures after skin contact	: Remove contaminated clothing immediately. Wash skin with soap and water. Get medical attention if any discomfort continues.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.
First-aid measures after ingestion	: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Rinse mouth thoroughly with water. Give water to drink. Get medical attention.

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

Symptoms/effects after inhalation	: Vapours may cause drowsiness and dizziness. Depression of the central nervous system.
Symptoms/effects after skin contact	: Prolonged or repeated contact may dry skin and cause irritation. Redness.
Symptoms/effects after eye contact	: May cause severe eye irritation. Irritation and redness, followed by blurred vision.

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Symptoms/effects after ingestion : May cause discomfort, if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

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 : Alcohol-resistant foam. Carbon dioxide. Dry powder. Water spray or fog.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours. Vapours may form explosive mixture with air. Static-accumulating.
Hazardous decomposition products in case of fire : Carbon oxides (CO, CO₂). Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Firefighting instructions : Contain and collect extinguishing water. Cool containers / tanks with spray water if possible. Move containers away from the fire area if this can be done without risk.
Protection during firefighting : Positive pressure self-contained breathing apparatus (SCBA) and structural fire-fighters protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Follow precautions for safe handling described in this safety data sheet. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Provide adequate ventilation. Earth container and transfer equipment to eliminate sparks from static electricity.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

Protective equipment : See section 8 of the SDS for more information on personal protective equipment.

6.2. Environmental precautions

Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Use only non-sparking tools. Absorb spillage with inert, damp, non-combustible material. Collect and place spilled material in suitable waste disposal containers and seal securely. See Section 13 for disposal information.

6.4. Reference to other sections

See section 8 of the SDS for more information on personal protective equipment.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, sparks and flame. Provide adequate ventilation. Avoid inhalation of vapour and spray mist. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Store tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

butanone; ethyl methyl ketone (78-93-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Butanone
IOEL TWA	600 mg/m ³
	200 ppm
IOEL STEL	900 mg/m ³
	300 ppm
Belgium - Occupational Exposure Limits	
Local name	2-Butanone
OEL TWA	600 mg/m ³
	200 ppm
OEL STEL	900 mg/m ³
	300 ppm
United Kingdom - Occupational Exposure Limits	
Local name	Butan-2-one (methyl ethyl ketone)
WEL TWA (OEL TWA)	600 mg/m ³
	200 ppm
WEL STEL (OEL STEL)	899 mg/m ³
	300 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity), BMGV (Biological monitoring guidance values are listed in Table 2)

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

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8.1.4. DNEL and PNEC

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DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	1161 mg/kg bw/day
Long-term - systemic effects, inhalation	600 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	31 mg/kg bw/day
Long-term - systemic effects, inhalation	106 mg/m ³
Long-term - systemic effects, dermal	412 mg/kg bw/day
PNEC (Water)	
PNEC aqua (freshwater)	55,8 mg/l
PNEC aqua (marine water)	55,8 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	284,7 mg/kg dwt
PNEC sediment (marine water)	284,7 mg/kg dwt
PNEC (Soil)	
PNEC soil	22,5 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	709 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Use engineering controls to keep exposures below the OEL or DNEL. Use explosion-proof equipment. Avoid inhalation of vapours.

8.2.2. Personal protection equipment

Personal protective equipment:

Safety glasses. Gas mask. Gloves.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses. Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles.

Eye protection			
Type	Field of application	Characteristics	Standard
Safety glasses with side shields	Droplet, Spray	tightly fitting safety goggles	EN 166

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8.2.2.2. Skin protection

Hand protection:

Wear suitable gloves resistant to chemical penetration.

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Butyl rubber	4 (> 120 minutes)	>0.64		EN 374-2, EN 374-3

Other skin protection

Materials for protective clothing:

Antistatic clothing

8.2.2.3. Respiratory protection

Respiratory protection:

An approved organic vapour respirator/supplied air or self-contained breathing apparatus must be used when vapour concentration exceeds applicable exposure limits. Half mask with gas filter Type A filter material. CEN standards EN 136, 140 and 405 provide breathing masks and EN 149 and 143 provide recommendations to use filters.

Respiratory protection			
Device	Filter type	Condition	Standard
Gas mask	Filter A2/B2		EN 136, EN 140, EN 143, EN 145, EN 149

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Product may not flow into sewer or superficial water.

Consumer exposure controls:

Wash hands before breaks and after work. Remove contaminated clothing immediately. Wash contaminated clothing before reuse.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Appearance	: Clear.
Molecular mass	: 72 g/mol
Odour	: Pungent.
Odour threshold	: Not available
Melting point	: -86 °C
Freezing point	: Not available
Boiling point	: 79 – 81 °C
Flammability	: Not available
Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.
Lower explosion limit	: 1,8 vol %
Upper explosion limit	: 11,5 vol %
Flash point	: -9 °C
Auto-ignition temperature	: > 400 °C
Decomposition temperature	: Not available

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pH	: Not applicable.
Viscosity, kinematic	: 0,52 mm ² /s at 25°C
Viscosity, dynamic	: ≈ 1 Pa·s
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 0,3
Vapour pressure	: 10,4 kPa at 20°C
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: 0,805 – 0,807 at 20°C
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1)	: 7,7
VOC content	: 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Can react with. strong oxidising compounds.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

strong oxidising compounds.

10.6. Hazardous decomposition products

Stable under normal conditions. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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LD50 oral rat	3460 mg/kg
LD50 dermal rabbit	5000 mg/kg
LC50 Inhalation - Rat [ppm]	7500 ppm

Skin corrosion/irritation	: Not classified
pH:	Not applicable.

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Serious eye damage/irritation	: Causes serious eye irritation. pH: Not applicable.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness. Depression of the central nervous system

butanone; ethyl methyl ketone (78-93-3)

STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: Prolonged or repeated contact may dry skin and cause irritation
Aspiration hazard	: Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Additional information	: The substance/mixture has no endocrine disrupting properties.

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Viscosity, kinematic	0,52 mm ² /s at 25°C
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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product components are not classified as environmentally hazardous.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

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LC50 - Fish [1]	2993 mg/l Pimephales promelas (Fat-head Minnow)
EC50 - Other aquatic organisms [1]	308 mg/l Daphnia magna
EC50 96h - Algae [1]	2029 mg/l Pseudokirchneriella subcapitata

12.2. Persistence and degradability

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Persistence and degradability	Readily biodegradable.
Biodegradation	98 % 28 days

12.3. Bioaccumulative potential

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Partition coefficient n-octanol/water (Log Pow)	0,3
Bioaccumulative potential	Bioaccumulation unlikely.

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12.4. Mobility in soil

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Organic Carbon Normalized Adsorption Coefficient (Log K_{oc}) 3,8 at 20°C

Ecology - soil Soluble in water.

12.5. Results of PBT and vPvB assessment

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PBT: not relevant – no registration required

vPvB: not relevant – no registration required

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Other adverse effects : The substance/mixture has no endocrine disrupting properties.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Do not puncture or incinerate, even when empty. Materials such as cleaning rags and paper wipes that are contaminated with flammable liquids may self-ignite after use and should be stored in designated fireproof containers with tight-fitting, self-closing lids. Waste is classified as hazardous waste.

Additional information : Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

In accordance with ADR / IATA

ADR	IATA
14.1. UN number or ID number	
Not regulated for transport	
14.2. UN proper shipping name	
ETHYL METHYL KETONE (METHYL ETHYL KETONE)	Ethyl methyl ketone
14.3. Transport hazard class(es)	
3	3
	
14.4. Packing group	
II	II
14.5. Environmental hazards	
Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available	

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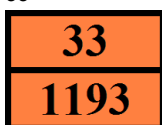
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14.6. Special precautions for user

Overland transport

Classification code (ADR)	: F1
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 33
Orange plates	:



Tunnel restriction code (ADR)	: D/E
EAC code	: •2YE

Air transport

Transport regulations (IATA)	: Not applicable.
PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 353
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
ERG code (IATA)	: 3L

14.7. Maritime transport in bulk according to IMO instruments

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

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

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VOC Directive (2004/42)

VOC content : 100 %

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category, Subcategory	Threshold	Annex
Methylethylketone	Butanone	78-93-3	2914 12 00	Category 3		Annex I

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

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:	
EUH066	Repeated exposure may cause skin dryness or cracking.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

Safety Data Sheet (SDS), EU

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.