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

1.1 Product identifier

Grafen Professional Engine Cleaner

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

Relevant identified uses: A product with a non-foaming formula containing solvents that dissolve grease, oil and dirt. It can be applied to any type of engine.
Uses advised against: No further relevant information available.

1.3 Details of the supplier of the safety data sheet:

Supplier: **Madejski Sp. J.**
Street address: ul. Makuszyńskiego 28
Country/Postcode: Poland, 31-752 Kraków
Telephone number: +48 (12) 643 67 67

E-mail: info@madejski.com.pl

1.4 Emergency telephone number: 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Mixture:
Classification according to Regulation (EC) No 1272/2008 (CLP)

Classification of the mixture / Hazard	Regulation (EC) No 1272/2008 (CLP)
Physical and chemical properties	Flam. Aerosol 2 H223, H229
Human	Asp. Tox.1 H304 Skin Irrit.2 H315 Skin Sens.1 H317 Eye Irrit.2 H319 STOT SE.3 H336 Repr.2 H361 STOT RE.2 H373
Environment	Aquatic Chronic 2 H411

2.2 Label elements

Contains Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics, D-limonene, Hydrocarbons C6, n-alkanes, iso-alkanes, cyclics, n-hexane rich, 2-butoxyethanol.

Supplemental information on the label:
Not applicable

Hazard pictograms:

Signal word:
DANGER

Hazard statements:
H223 Flammable aerosol.
H229 Pressurised container: May burst if heated.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
Precautionary statements:
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P260 Do not breathe dust/fume/gas/mist/vapours/ spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P282 Wear cold insulating gloves/face shield/eye protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/
P302 + P352 IF ON SKIN: Wash with plenty of water with soap.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/ attention.
P314 Get medical advice/attention if you feel unwell.
P331 Do NOT induce vomiting.
P362 +P364 Take off contaminated clothing and wash it before reuse.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50^0C/122^0F.
P501 Dispose of contents/container to in accordance with local/ regional/national/international regulation.

2.3 Other hazards
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances: Not applicable
3.2 Mixtures: Contains carbon dioxide.

Name	Identifiers	[% weight]	Classification according to Regulation (EC) No 1278/2008 (CLP).
Hydrocarbons C6, n-alkanes,	Index No: ---	15-20	Flam. Liq.2 H225

Iso-alkanes, cyclics, n-hexane rich	EC No: 925-292-5 CAS No: --- REACH Registration No: 01-2119474209-33- 0002		Asp. Tox.1 H304 Skin Irrit.2 H315 STOT SE.3 H336 Repr.2 H361 STOT RE.2 H373 Aquatic Chronic2 H411 Note P
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	Index No: --- EC No: 919-857-5 CAS No: --- REACH Registration No: 01-2119463258-33-0003	15-20	Flam. Liq.3 H226 Asp. Tox.1 H304 STOT SE.3 H336 Note P EUH066
2-butoxyethanol	Index No: 603-014-00-0 EC No: 203-905-0 CAS No: 111-76-2 REACH Registration No:---	5-10	Acute Tox.4 H302 Acute Tox.4 H312 Skin Irrit.2 H315 Eye Irrit.2 H319 Acute Tox.4 H332
D-limonene	Index No: 601-029-00-7 EC No: 227-813-5 CAS No: 5989-27-5 REACH Registration No:---	15-20	Flam Liq.3 H226 Skin Irrit.2 H315 Skin Sens.1 H317 Aquatic Acute1 H400 Aquatic Chronic1 H410 (M=1)

Note P- The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).

Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane rich (100%) is a UVCB substance and includes:

Name	Identifiers	[% weight]	Classification according to Regulation (EC) No 1278/2008 (CLP).
n-hexane	Index No: 601-037-00-0 EC No: 203-777-6 CAS No: 110-54-3 REACH Registration No.:-	<55%	Flam. Liq.2 H225 Asp. Tox.1 H304 Skin Irrit.2 H315 STOT SE.3 H336 Repr.2 H361f STOT RE.2 H373 Aquatic Chronic2 H411

The full text for all H-phrases and hazard statements are displayed in section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

Following eye contact: Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

Following inhalation: Move the exposed person to fresh air at once. Provide fresh air, warmth and rest, preferably in a comfortable upright sitting position. Get medical attention if any discomfort continues.

Following skin contact: Immediately remove contaminated clothing. Wash the skin with soap and water. Contaminated clothing should be washed before re-use. Get medical attention promptly if symptoms occur after washing.

Following ingestion: Do not induce vomiting. Immediately rinse mouth. Never give anything by mouth to an unconscious person. Seek medical advice. Provide ventilation.

4.2 Most important symptoms and effects, both acute and delayed

Respiratory system:

A single exposure may cause the following adverse effects: Headache. Nausea, vomiting. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo.

Skin:

May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.

Eye:

Eye irritation signs and symptoms may include a burning sensation, redness.

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

If any symptoms persist seek medical advice and show the msds or label.

Notes for the doctor: Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: foam, carbon dioxide, dry powder, water spray

Unsuitable extinguishing media: do not use water in a jet

5.2 Special hazards arising from the substance or mixture

Thermal decomposition or combustion may liberate carbon oxides.

5.3 Advice for firefighters

Special Fire Fighting Procedures: Wear full protective clothing and self-contained breathing apparatus.

Protective equipment for fire-fighters: Keep containers cool by spraying with water. If possible remove containers from the danger zone. Prevent from spreading or entering drains, ditches or rivers. Dispose of released and contained material in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Removed from the danger area all persons not involved in the emergency. If necessary, order the evacuation. Avoid contact with skin, eyes. Avoid inhalation of vapours / aerosols. Provide ventilation.

For emergency responders:

Wear protective clothing as described in Section 8.

6.2 Environmental precautions

Do not discharge into drains, water courses or into the ground. Local authorities should be advised if any exposure to the environment occurs.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (eg. sawdust, sand). Collect in a waste container. Dispose of waste according to the applicable local and national regulation.

6.4 Reference to other sections

See Section 8 for information on personal protective equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures:
Use only in a well-ventilated area. Avoid breathing vapor or aerosol. Avoid contact with eyes, skin. When handling, use appropriate personal protective equipment (see Section 8). Keep away from heat, sparks, flame and all other sources of ignition. Do not smoke! When using do not eat or drink.
Advice on general occupational hygiene:
Ensure good ventilation / exhaustion at the workplace. When using do not eat, drink or smoke. Wash hand before and after work with product. Contaminated clothing should be washed before re-use. Avoid spillage. Continuous inhalation may cause respiratory irritation. Avoid contact with skin.

7.2 Conditions for safe storage, including any incompatibilities
Store in tightly closed original container in a dry, cool and well-ventilated place (in temperature below 50ºC). Keep away from heat, sparks, sunlight, open flame and smoking. Do not store together with oxidizing agents, acids, alkalis.

7.3 Specific end use(s)
No further relevant information available.

SECTION 8: Exposure controls/personal protection
8.1 Control parameters
International Limits Values:

Substance	CAS No:	Basis / Country	Short Time Value [mg/m^3]	Short Time Value [ppm-Calculated]	Time Weighted Average Exposure Limit [mg/m^3-8 h]	Time Weighted Average Exposure Limit [ppm-Calculated]
D-limonene	5989-27-5	Germany European Union	112 -	20 -	28 -	5 -
n-hexane	110-54-3	Germany European Union	1440 80	400 50	72 -	20 -
Carbon dioxide	124-38-9	Germany European Union	18200 -	10000 -	9100 9000	5000 5000
2-butoxyethanol	111-76-2	Germany European Union	98 49	20 10	49 246	10 50

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

n-hexane

	WORKERS		CONSUMERS	
Route of exposure	**Acute effect local**	**Acute effects systemic**	**Acute effect local**	**Acute effects systemic**
Oral	No data available	No data available	No data available	4 mg/kg bw/day
Inhalation	No data available	75 mg/m^3	No data available	16 mg/m³
Dermal	No data available	11 mg/kg bw/day	No data available	5.3 mg/kg bw/day

Hydrocarbons C6, n-alkanes, iso-alkanes, cyclics, n-hexane rich

	WORKERS		CONSUMERS	
Route of	**Acute effect local**	**Acute effects systemic**	**Acute effect local**	**Acute effects systemic**

exposure				
Oral	No data available	No data available	No data available	6 mg/kg bw/day
Inhalation	No data available	93 mg/m³	No data available	20 mg/m³
Dermal	No data available	13 mg/kg bw/day	No data available	7 mg/kg bw/day

D-limonene

	WORKERS		CONSUMERS	
Route of exposure	**Acute effect local**	**Acute effects systemic**	**Acute effect local**	**Acute effects systemic**
Oral	No data available	No data available	No data available	4.8 mg/kg bw/day
Inhalation	No data available	66.7 mg/m³	No data available	16.6 mg/m³
Dermal	No data available	9.5 mg/kg bw/day	No data available	4.8 mg/kg bw/day

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics

	WORKERS		CONSUMERS	
Route of exposure	**Acute effect local**	**Acute effects systemic**	**Acute effect local**	**Acute effects systemic**
Oral	No data available	No data available	No data available	300 mg/kg bw/day
Inhalation	No data available	1 500 mg/m³	No data available	900 mg/m³
Dermal	No data available	300 mg/kg bw/day	No data available	300 mg/kg bw/day

2-butoxyethanol

	WORKERS		CONSUMERS	
Route of exposure	**Acute effect local**	**Acute effects systemic**	**Acute effect local**	**Acute effects systemic**
Oral	No data available	No data available	No data available	6.3 mg/kg bw/day
Inhalation	246 mg/m³	98 mg/m³	147 mg/m³	59 mg/m³
Dermal	No data available	125 mg/kg bw/day	No data available	75 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

D-limonene

Environmental protection target	**PNEC**
Freshwater	14 µg/L
Freshwater sediments	3.85 mg/kg sediment dw
Marine water	1.4 µg/L
Marine sediments	0.385 mg/kg sediment dw
Food chain	133 mg/kg food
Microorganisms in sewage treatment	No data available
Soil (agricultural)	0.763 mg/kg soil dw
Air	No data available

2-butoxyethanol

Environmental protection target	**PNEC**
Freshwater	8.8 mg/L
Freshwater sediments	34.6 mg/kg sediment dw
Marine water	0.88 mg/L
Marine sediments	3.46 mg/kg sediment dw

Food chain	0.02 g/kg food
Microorganisms in sewage treatment	No data available
Soil (agricultural)	2.33 mg/kg soil dw
Air	No data available

Hydrocarbons, C6, n-alkanes, iso-alkanes, cyclics, n-hexane rich
No data available

n-hexane
No data available

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics
No data available

8.2 Exposure controls

Appropriate engineering controls
Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

Individual protection measures, such as personal protective equipment

Eye/face protection
Avoid contact with eyes. Wear approved chemical safety goggles where eye exposure is reasonably probable.

Skin protection:
Hand protection: Wear protective gloves. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.
Other: Wear protective clothing. Contaminated clothing should be washed before re-use.

Respiratory protection: Respiratory protection must be used if air contamination exceeds acceptable level. It is recommended to use respiratory equipment with filter.

Environmental exposure controls
Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Do not discharge into drains, water courses or into the ground. Local authorities should be advised if any exposure to the environment occurs.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Aerosol
Odour	No data available
Odour threshold	No data available
pH	No data available
Melting point / freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available

Relative density	No data available
Solubility(ies)	No data available
Partition coefficient: n-octanol / water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2 Other information:

No data available

SECTION 10: Stability and Reactivity

10.1 Reactivity

Not reactive under normal conditions of storage and use. Containers may explode at temperatures above 50^0C.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Reacts with oxidizing agents, acids, alkalis.

10.4 Conditions to avoid

Avoid release to the environment. Avoid heat, flames and other sources of ignition.

10.5 Incompatible materials

No further relevant 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

Hydrocarbons C6, n-alkanes, iso-alkanes, cyclics, n-hexane rich

LD50 (rat, oral)	> 25 mL/kg bw
LC50 (rat, inhalation)	73 860 ppm
LD50 (rabbit, dermal)	> 5 mL/kg bw

n- hexane

LD50 (rat, oral)	43.5 mL/kg bw
LC50 (rat, inhalation)	> 31.86 mg/L air
LD50 (rabbit, dermal)	> 2 000 mg/kg bw

D-limonene

LD50 (rat, oral)	>2000 mg/kg bw
LC50 (rat, inhalation)	Brak danych
LD50 (rabbit, dermal)	> 5 000 mg/kg bw

2-butoxyethanol

LD50 (Guinea pig, oral)	1414 mg/kg bw
LC50 (rat, inhalation)	450 ppm

LD0 (Guinea pig, dermal) > 2 000 mg/kg bw

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics

LD50 (rat, oral) > 10ml/kg
LC50 (rat, inhalation) >9300 mg/m³
LD50 (rabbit, dermal) >= 3 160 mg/kg bw

Skin corrosion/irritation
The mixture was classified as an irritant to the skin.
Serious eye damage/irritation
The mixture was classified as an irritant to the eye.
Respiratory or skin sensitisation
The mixture was classified as an may cause skin sensitisation or allergic reactions in sensitive individuals.
Germ cell mutagenicity
Based on available data, the classification criteria are not met.
Carcinogenicity
Based on available data, the classification criteria are not met.
Reproductive toxicity
The mixture was classified as an suspected of damaging fertility or the unborn child.
STOT-single exposure
The mixture was classified as an STOT single exposure - may cause drowsiness or dizziness.
STOT-repeated exposure
The mixture was classified as an STOT repeated exposure - May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard
The mixture was classified as an aspiration hazard - May be fatal if swallowed and enters airways.
Additional information
No further relevant information available.

SECTION 12: Ecological information

12.1 Toxicity
No data available for the mixture.

Hydrocarbons C6, n-alkanes, iso-alkanes, cyclics, n-hexane rich

Fish (Oncorhynchus mykiss)	LL50	> 13.3 mg/L exposition time: 96h
Aquatic invertebrates (Daphnia magna)	LC50	45 mmol/m^3 exposition time: 48h
Algae and bacteria (Chlorella pyrenoidosa)	EC50	2.66 % v/v exposition time: 10d

n-hexane

Fish (Oncorhynchus mykiss)	LL50	13.37 mg/L exposition time: 96h
Aquatic invertebrates (Daphnia magna)	LC50	31.9 mg/L exposition time: 48h
Algae and bacteria (Pseudokirchneriella subcapitata)	EC50	9.947 mg/L exposition time: 72h

2-butoxyethanol

Fish (Oncorhynchus mykiss)	LC50	1 474 mg//L exposition time: 96h
Aquatic invertebrates (Daphnia magna)	EC50	1 550 mg/L exposition time: 48h
Algae and bacteria (Pseudokirchneriella subcapitata)	EC50	911 mg/L exposition time: 72h

D-limonene

Fish (Pimephales promelas)	LC50	720 µg/L exposition time: 96h
Aquatic invertebrates (Daphnia magna)	EC50	0.307 mg/L exposition time: 48h
Algae and bacteria (Pseudokirchneriella subcapitata)	EC50	0.32 mg/L exposition time: 72h

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics

Fish (Oncorhynchus mykis)	LL50	> 1 000 mg/L exposition time: 96h
Aquatic invertebrates (Daphnia magna)	EL50	> 1 000 mg/L exposition time: 48h
Algae and bacteria (Pseudokirchneriella subcapitata)	EL50	> 1 000 mg/L exposition time: 72h

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential
No further relevant information available.

12.4 Mobility in soil
No further relevant information 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 Other adverse effects
No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.
Proposed waste code
07 01 04* other organic solvents, washing liquids and mother liquors
16 05 04* gases in pressure containers (including halons) containing dangerous substances

SECTION 14: Transport Information

	ADR/RID	IMDG	IATA
14.1. UN number	UN1950	UN1950	UN1950
14.2. UN proper shipping name	Aerosol, flame	Aerosol, flame	Aerosol, flame
14.3. Transport hazard class(es)	2.1	2.1	2.1
14.4. Packing group	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards	YES	YES	YES
14.6. Special precautions for user	Not applicable	Not applicable	Not applicable
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable	Not applicable	Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),
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, andamending Regulation (EC) No 1907/2006 with amendments.
2014/955/EU: Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of

waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council Text with EEA relevance

15.2 Chemical Safety Assessment
No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Classification according to Regulation (EC) No. 1272/2008
Classification procedure: calculation method

Flam. Aerosol 2 H223, H229
Asp. Tox.1 H304
Skin Irrit.2 H315
Skin Sens.1 H317
Eye Irrit.2 H319
STOT SE.3 H336
Rep.2 H361
STOT RE.2 H373
Aquatic Chronic 2 H411

Relevant H-statements (number and full text)
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H361 May damage fertility or the unborn child.
H361f Suspected of damaging fertility.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, Information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
It is the responsibility of persons in receipt of this Product Safety Data Sheet to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces a formulation containing the product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from the Product Safety Data Sheet to their own Product Safety Data Sheet.

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS. As stated above, this Safety Data Sheet has been prepared in compliance with applicable European law. If you purchase this material

outside Europe, where compliance laws may differ, you should receive from your local supplier a SDS applicable to the country in which the product is sold and intended to be used. Please note that the appearance and content of the SDS may vary –even for the same product between different countries, reflecting the different compliance requirements.