

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

1.1 Product identifier

Trade name: Engine Sealing Compound black

This safety data sheet pertains to the following products:
343963 = Engine Sealing Compound black

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

General use: Sealing agent
Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company name: Berner Produkten b.v.

Street/POB-No.: Vogelzankweg 175

Postal Code, city: 6374 AC Landgraaf
Netherlands

WWW: www.berner.nl

E-mail: info@berner.nl

Telephone: +31 45 53 39 133

Department responsible for information:

E-mail: Productsafety.Chemicals@berner-group.com

1.4 Emergency telephone number

Poisons information service:

National Poisons Information Service (Birmingham Unit): 844 892 0111

Transport:

CONSULTANK Lutz Harder GmbH (Contract Qualisys/Berner)

Telephone: +49 (178) 4337434 (from USA: 01149 178 4337434)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Aerosol 3; H229 Pressurised container: May burst if heated.

2.2 Label elements

Labelling (CLP)

Signal word: **Warning**

Hazard statements: H229 Pressurised container: May burst if heated.

Precautionary statements: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P251 Do not pierce or burn, even after use.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.3 Other hazards

No risks worthy of mention.

Endocrine disrupting properties, Results of PBT and vPvB assessment:

No data available

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: Mixture of the substances listed below with non-hazardous additions

Hazardous ingredients:

Identifiers	Designation Classification	Content
REACH 01-2119881778-15-xxxx EC No. 241-677-4 CAS 17689-77-9	Triacetoxyethylsilane Acute Tox. 4; H302. Skin Corr. 1B; H314. (EUH014).	3 - 5 %
REACH 01-0000019758-54-xxxx EC No. 471-480-0 CAS 29118-24-9	1,3,3,3-Tetrafluoro-1-propene Liquef. Gas; H280.	< 10 %

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: If medical advice is needed, have product container or label at hand. Take off contaminated clothing and wash it before reuse.

In case of inhalation: Move victim to fresh air. In the event of discomfort seek medical treatment.

Following skin contact: Remove residues with soap and water. In case of skin reactions, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist.

After swallowing: Rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray jet, extinguishing powder, foam

Extinguishing media which must not be used for safety reasons:

Full water jet

5.2 Special hazards arising from the substance or mixture

Pressurised container: May burst if heated.

In case of fire may be liberated: hydrogen fluoride, Carbon dioxide, Carbon monoxide

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Hazchem-Code: -

Heating will lead to pressure increase: Danger of bursting and explosion. Use fine water spray to cool endangered containers.

Move undamaged containers from immediate hazard area if it can be done safely.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Do not allow fire water to penetrate into surface or ground water.

Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

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

Provide adequate ventilation. Eliminate all ignition sources if safe to do so. Do not breathe spray. Take off contaminated clothing and wash it before reuse. Wear appropriate protective equipment. Avoid inhalation and contact with skin and eyes.

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, universal binding agents). Keep container tightly closed.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed. Do not breathe spray. Do not get in eyes, on skin, or on clothing. Wear appropriate protective equipment.

Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

Guarantee sufficient ventilation during and after use, in order to prevent vapour accumulation.

Precautions against fire and explosion:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not pierce or burn, even after use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed and in a well-ventilated place.

Keep container dry. Keep only in the original container.

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Store containers in upright position. Maximum storage period (time): 1 year

Hints on joint storage:

Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Additional information:

Contains no substances with occupational exposure limit values.

DNEL/DMEL: Information about Triacetoxylethylsilane:
DNEL workers, long-term, local, inhalative: 32.5 mg/m³
DNEL consumers, long-term, local, inhalative: 6.5 mg/m³

PNEC: Information about Triacetoxylethylsilane:
PNEC water (freshwater): 0.2 mg/L
PNEC water (marine water): 0.02 mg/L
PNEC water (intermittent release): 1.7 mg/L
PNEC sewage treatment plant: 1 mg/L
PNEC sediment (freshwater): 0.74 mg/kg dw
PNEC sediment (marine water): 0.074 mg/kg dw
PNEC soil: 0.031 mg/kg dw

8.2 Exposure controls

Provide adequate ventilation, and local exhaust as needed.

Personal protection equipment

Occupational exposure controls

Respiratory protection: In case of inadequate ventilation wear respiratory protection. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection: Protective gloves according to EN 374.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to BS EN ISO 16321-1:2022.

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Do not pierce or burn, even after use. Do not breathe spray. Do not get in eyes, on skin, or on clothing. When using do not eat or drink. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
Guarantee sufficient ventilation during and after use, in order to prevent vapour accumulation.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Physical state at 20 °C and 101.3 kPa: liquid
Form: Aerosol
Colour: black

Odour: Characteristic

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/flash point range: No data available

Evaporation rate: No data available

Flammability: No data available

Explosion limits: No data available

Vapour pressure: No data available

Vapour density:	No data available
Density:	1.05 g/mL
Water solubility:	Insoluble
Partition coefficient: n-octanol/water:	at 20%: -1.9 log K(o/w) (Triacetoxymethylsilane) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, kinematic:	No data available
Explosive properties:	Pressurised container: May burst if heated.
Oxidizing characteristics:	No data available

9.2 Other information

Additional information: No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Refer to subsection "Possibility of hazardous reactions".

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Pressurised container: May burst if heated.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not pierce or burn, even after use.

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

No hazardous decomposition products when regulations for storage and handling are observed.

Thermal decomposition: No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Based on available data, the classification criteria are not met.

ATEmix (calculated): >2,000 mg/kg

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.

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

Specific symptoms in animal studies (Guinea pig): Does not cause irritation. (OECD 406)

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

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

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

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.

Aspiration hazard: Lack of data.

Other information: Information about Triacetoxylethylsilane:

LD50, Rat, oral: 1,460 mg/kg bw (OECD 401)

Eye irritation:

Specific symptoms in animal studies, Rabbit, c=5%: Not an irritant (OECD 405, 24h)

Skin irritation:

Specific symptoms in animal studies, Rabbit: corrosive (OECD 404, 3min)

Specific symptoms in animal studies, Rabbit, c=5%: Not an irritant (OECD 404, 4h)

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Information about Triacetoxylethylsilane:

Fish toxicity:

LC50 Danio rerio (zebrafish): 251 mg/L/96h (OECD 203)

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 168.7 mg/L/48h (read across)

NOEC Daphnia magna (Big water flea): > 100 mg/L/21d (read across)

Algae toxicity:

EC50 Pseudokirchneriella subcapitata (green algae), growth rate: 210 mg/L/7d (read across)

Further details: Information about Triacetoxylethylsilane: 74%/21d (GLP; EU C.4). Not easily degradable.

12.2 Persistence and degradability

Further details: No data available

12.3 Bioaccumulative potential

Information about Triacetoxymethylsilane:

Partition coefficient: octanol/water (at 20%): $-1.9 \log K(o/w)$. Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

Partition coefficient: n-octanol/water:

at 20%: $-1.9 \log K(o/w)$ (Triacetoxymethylsilane)

Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 16 05 05 = gases in pressure containers other than those mentioned in 16 05 04/Aerosol

Recommendation: Do not pierce or burn, even after use.
Special waste. Dispose of waste according to applicable legislation.
Do not dispose of with household waste.

Package

Waste key number: 15 01 04 = metallic packaging

Recommendation: Empty carefully and completely, if possible. Handle empty containers with care. Incineration may cause explosion.

SECTION 14: Transport information

14.1 UN number

ADR/RID, IMDG, IATA-DGR: UN 1950

14.2 UN proper shipping name

ADR/RID, IMDG: UN 1950, AEROSOLS

IATA-DGR: UN 1950, AEROSOLS, NON-FLAMMABLE

14.3 Transport hazard class(es)

ADR/RID: Class 2, Code: 5A

IMDG: Class 2.2, Subrisk -

IATA-DGR: Class 2.2

14.4 Packing group

ADR/RID, IATA-DGR: not applicable

IMDG: -

14.5 Environmental hazards

Marine pollutant: no



14.6 Special precautions for user

Land transport (ADR/RID)

Warning board:	RID: Kemmler-number 20, UN number UN 1950
Hazard label:	2.2
Special Provisions:	190 327 344 625
Limited quantities:	1 L
EQ:	E0
Package - Instructions:	P207 LP200
Package - Special Provisions:	PP87 RR6 L2
Special provisions for packing together:	MP9
Tunnel restriction code:	E

Sea transport (IMDG)

EmS:	F-D, S-U
Special Provisions:	63 190 277 327 344 381 959
Limited quantities:	1000 mL
Excepted quantities:	E0
Package - Instructions:	P207, LP200
Package - Provisions:	PP87, L2
IBC - Instructions:	-
IBC - Provisions:	-
Tank instructions - IMO:	-
Tank instructions - UN:	-
Tank instructions - Provisions:	-
Stowage and handling:	SW1 SW22
Segregation:	SG69
Properties and observations:	-
Segregation group:	none

Air transport (IATA)

Hazard label:	Non-flamm. gas
Excepted Quantity Code:	E0
Passenger and Cargo Aircraft: Ltd.Qty.:	Pack.Instr. Y203 - Max. Net Qty/Pkg. 30 kg G
Passenger and Cargo Aircraft:	Pack.Instr. 203 - Max. Net Qty/Pkg. 75 kg
Cargo Aircraft only:	Pack.Instr. 203 - Max. Net Qty/Pkg. 150 kg
Special Provisions:	A98 A145 A167 A802
Emergency Response Guide-Code (ERG):	2L

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

No data available

SECTION 15: Regulatory information

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

National regulations - Great Britain

Hazchem-Code: -
No data available

National regulations - EC member states

Further regulations, limitations and legal requirements:
Use restriction according to REACH annex XVII, no.: 3

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information**Further information**

Wording of the H-phrases under paragraph 2 and 3:

- H229 = Pressurised container: May burst if heated.
- H280 = Contains gas under pressure; may explode if heated.
- H302 = Harmful if swallowed.
- H314 = Causes severe skin burns and eye damage.
- EUH014 = Reacts violently with water.

Abbreviations and acronyms:

Acute Tox.: Acute toxicity
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
Aerosol: Aerosol
AS/NZS: Australian Standards/New Zealand Standards
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EC50: Effective Concentration 50%
EN: European Standard
EQ: Excepted quantities
IATA: International Air Transport Association
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
LC50: Median lethal concentration
LD50: Lethal dose 50%
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
NOEC: No Observed Effect Concentration
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
Skin Corr.: Skin corrosion
TRGS: Technical Rules for Hazardous Substances
UN: United Nations
vPvB: Very persistent and very bioaccumulative

Reason of change: **General revision**Date of first version: **21/1/2021****Department issuing data sheet**Contact person: **see section 1: Department responsible for information**

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.