



Shield Engine Cleaner Aerosol

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

Date of issue: 28/01/2020

Revision date: 29/01/2022

Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
Trade name : Shield Engine Cleaner Aerosol
Type of product : Engine cleaner
Product code : SH611
Product group : Trade product

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

No additional information available

1.3. Supplier's details

Manufacturer

Shield Chemicals (Pty) Ltd
9 London Rd
Apex
P.O. Box 1939
1501 Benoni - South Africa
T (011) 421 7111
info@shieldchem.co.za

1.4. Emergency telephone number

Emergency number : (011) 421 7111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Aerosol, Category 1	H222;H229
Skin corrosion/irritation, Category 2	H315
Germ cell mutagenicity, Category 1B	H340
Carcinogenicity, Category 1B	H350
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity — Repeated exposure, Category 1	H372
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 2	H411

Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



GHS02

GHS07

GHS08

GHS09

Signal word (GHS-ZA) : Danger

Hazard statements (GHS-ZA) :

- H222 - Extremely flammable aerosol.
- H229 - Pressurised container: May burst if heated.
- H315 - Causes skin irritation.
- H336 - May cause drowsiness or dizziness.
- H340 - May cause genetic defects.
- H350 - May cause cancer.
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H400 - Very toxic to aquatic life.
- H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (GHS-ZA) :

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- 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 spray.
- P261 - Avoid breathing spray.
- P264 - Wash hands, forearms and face thoroughly after handling.

Shield Engine Cleaner Aerosol

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear eye protection, protective clothing, protective gloves.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 - IF exposed or concerned: Get medical attention.
P312 - Call a POISON CENTER, a doctor if you feel unwell.
P314 - Get medical attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label)
P332+P313 - If skin irritation occurs: Get medical advice.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
P501 - Dispose of contents and container to an approved waste disposal plant.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : Highly flammable liquid and vapour, Causes skin irritation, Toxic to aquatic life, Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
Naphtha (petroleum), hydrodesulfurized heavy / Naphtha (petroleum), hydrodesulfurized heavy	(CAS-No.) 64742-82-1	50.0 - 60.0	Flam. Liq. 2, H225 Acute Tox. Not classified (Oral) Muta. 1B, H340 Carc. 1B, H350 STOT RE 1, H372 Asp. Tox. 1, H304
Kerosine (petroleum)	(CAS-No.) 8008-20-6	15.0 - 20.0	Flam. Liq. 3, H226 Acute Tox. Not classified (Oral) Acute Tox. 5 (Dermal), H313 STOT RE Not classified Asp. Tox. 1, H304
heptane	(CAS-No.) 142-82-5	4.0 - 10.0	Flam. Liq. 2, H225 Acute Tox. Not classified (Oral) Acute Tox. 5 (Dermal), H313 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
octane	(CAS-No.) 111-65-9	5.0 - 10.0	Flam. Liq. 2, H225 Acute Tox. Not classified (Oral) Acute Tox. 5 (Dermal), H313 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
methylcyclohexane	(CAS-No.) 108-87-2	4.0- 10.0	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
butane, liquefied, under pressure	(CAS-No.) 106-97-8	4.0 - 10.0	Pyr. Gas Not classified Flam. Gas 1, H220 Aquatic Acute 2, H401
propane	(CAS-No.) 74-98-6	4.0 - 10.0	Pyr. Gas Not classified Flam. Gas 1, H220 Aquatic Acute Not classified

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

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

Shield Engine Cleaner Aerosol

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

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

Symptoms/effects after skin contact : Irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes.

6.1.2. For emergency responders

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

methylcyclohexane (108-87-2)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Methylcyclohexane
OEL TWA (mg/m ³)	1600 mg/m ³
OEL TWA (ppm)	400 ppm
OEL STEL (mg/m ³)	2000 mg/m ³
OEL STEL (ppm)	500 ppm
Regulatory reference	Government Notice. R: 1179
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	Methylcyclohexane
OEL TWA (mg/m ³)	1600 mg/m ³
OEL TWA (ppm)	400 ppm
OEL STEL (mg/m ³)	2000 mg/m ³

Shield Engine Cleaner Aerosol

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

methylcyclohexane (108-87-2)	
OEL STEL (ppm)	500 ppm
Regulatory reference	Government Notice No. R 904
propane (74-98-6)	
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	Propane
OEL TWA (mg/m ³)	1800 mg/m ³
OEL TWA (ppm)	1000 ppm
Regulatory reference	Government Notice No. R 904
butane, liquefied, under pressure (106-97-8)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Butane
OEL TWA (mg/m ³)	1430 mg/m ³
OEL TWA (ppm)	600 ppm
OEL STEL (mg/m ³)	1780 mg/m ³
OEL STEL (ppm)	750 ppm
Regulatory reference	Government Notice. R: 1179
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	n-Butane
OEL TWA (mg/m ³)	1430 mg/m ³
OEL TWA (ppm)	600 ppm
OEL STEL (mg/m ³)	1780 mg/m ³
OEL STEL (ppm)	750 ppm
Regulatory reference	Government Notice No. R 904

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection : Protective gloves
Eye protection : Safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Liquid.
Colour : clear.
Odour : Characteristic odour.
Odour threshold : No data available
pH : No data available
pH solution : No data available
Relative evaporation rate (butylacetate=1) : No data available
Relative evaporation rate (ether=1) : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Not applicable
Vapour pressure : No data available
Vapour pressure at 50 °C : No data available

Shield Engine Cleaner Aerosol

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Relative density of saturated gas/air mixture	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

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

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

Naphtha (petroleum), hydrodesulfurized heavy / Naphtha (petroleum), hydrodesulfurized heavy (64742-82-1)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
Kerosine (petroleum) (8008-20-6)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 798.1175 (Acute Oral Toxicity), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: EPA OTS 798.1100 (Acute Dermal Toxicity), Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 inhalation rat (mg/l)	> 5.28 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), 95% CL: 0,42 -
heptane (142-82-5)	
LD50 oral rat	> 5000 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral)
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal)
LC50 inhalation rat (mg/l)	> 29.29 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
octane (111-65-9)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity)
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity)

Shield Engine Cleaner Aerosol

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

octane (111-65-9)	
LC50 inhalation rat (mg/l)	> 24.88 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
propane (74-98-6)	
LC50 inhalation rat (ppm)	> 800000 ppm (15 minutes, Rat, Male / female, Experimental value, Inhalation (gases))
butane, liquefied, under pressure (106-97-8)	
LC50 inhalation rat (mg/l)	1442.738 - 1443 mg/l 15 MIN
LC50 inhalation rat (ppm)	800000 ppm 15 MIN

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.

Kerosine (petroleum) (8008-20-6)	
NOAEL (oral, rat, 90 days)	750 mg/kg bodyweight Animal: rat, Animal sex: female
NOAEC (inhalation, rat, vapour, 90 days)	>= 0.024 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)

octane (111-65-9)	
NOAEC (inhalation, rat, vapour, 90 days)	24.3 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Aspiration hazard : Not classified

Shield Engine Cleaner Aerosol	
Vaporizer	Aerosol

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	: Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Toxic to aquatic life with long lasting effects.

heptane (142-82-5)	
BCF other aquatic organisms 1	552 (BCFBAF v3.00, Calculated value)
Log Pow	4.66 (Experimental value)
Log Koc	2.38 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

octane (111-65-9)	
EC50 Daphnia 1	0.3 mg/l Test organisms (species): Daphnia magna
LOEC (chronic)	0.32 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.17 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

propane (74-98-6)	
LC50 fish 1	24 mg/l (96 h, Pisces, Literature study)
LC50 fish 2	49.9 mg/l (96 h, Pisces, Fresh water, QSAR)
EC50 Daphnia 1	7 mg/l (48 h, Daphnia magna, Literature study)
BCF fish 1	9 - 25 (Pisces, QSAR)
Log Pow	1.09 - 2.8 (Experimental value, 20 °C)

butane, liquefied, under pressure (106-97-8)	
LC50 fish 1	> 1000 mg/l (96 h, Pimephales promelas, QSAR)
EC50 72h algae (1)	5.3 - 5.5 mg/l (Algae, QSAR)
Log Pow	2.89 (Experimental value)

12.2. Persistence and degradability

Shield Engine Cleaner Aerosol	
Persistence and degradability	No additional information available

Shield Engine Cleaner Aerosol

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

heptane (142-82-5)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.92 g O ₂ /g substance
Chemical oxygen demand (COD)	0.06 g O ₂ /g substance
ThOD	3.52 g O ₂ /g substance
BOD (% of ThOD)	> 0.5 (5 day(s), Literature study)

propane (74-98-6)	
Persistence and degradability	Readily biodegradable in water.

butane, liquefied, under pressure (106-97-8)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

Shield Engine Cleaner Aerosol	
Bioaccumulative potential	No additional information available

heptane (142-82-5)	
BCF other aquatic organisms 1	See section 12.1 on ecotoxicology
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Bioaccumulative potential	Potential for bioaccumulation ($4 \geq \text{Log Kow} \leq 5$).

propane (74-98-6)	
BCF fish 1	See section 12.1 on ecotoxicology
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation ($\text{Log Kow} < 4$).

butane, liquefied, under pressure (106-97-8)	
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation ($\text{Log Kow} < 4$).

12.4. Mobility in soil

Shield Engine Cleaner Aerosol	
Mobility in soil	No additional information available

heptane (142-82-5)	
Surface tension	19.66 mN/m (25 °C)
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Ecology - soil	Low potential for adsorption in soil.

propane (74-98-6)	
Surface tension	0.016 N/m (-47 °C)
Log Pow	See section 12.1 on ecotoxicology
Ecology - soil	Not applicable (gas).

butane, liquefied, under pressure (106-97-8)	
Surface tension	< 0.1 N/m (0 °C)
Log Pow	See section 12.1 on ecotoxicology
Ecology - soil	Not applicable (gas).

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1950	1950	1950
14.2. Proper Shipping Name		
AEROSOLS	AEROSOLS	Aerosols, flammable

Shield Engine Cleaner Aerosol

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

SANS	IMDG	IATA
14.3. Transport hazard class(es)		
2.1	2.1	2.1
		 Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : No :	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Special provisions (SANS) : 63, 190
Limited quantities (SANS) : See SP277
Limited quantities (SANS) : See SP277
Packagings, large packagings and IBCs : P003
Packing instructions (SANS)
Packagings, large packagings and IBCs Special : PP17, PP87
packing instructions (SANS)

- IMDG

Special provisions (IMDG) : 63, 190, 277, 327, 344, 381, 959
Packing instructions (IMDG) : P207, LP200
Special packing provisions (IMDG) : PP87, L2
EmS-No. (Fire) : F-D - FIRE SCHEDULE Delta - FLAMMABLE GASES
EmS-No. (Spillage) : S-U - SPILLAGE SCHEDULE Uniform - GASES (FLAMMABLE, TOXIC OR CORROSIVE)
Stowage category (IMDG) : None

- IATA

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Y203
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 203
PCA max net quantity (IATA) : 75kg
CAO packing instructions (IATA) : 203
CAO max net quantity (IATA) : 150kg
Special provisions (IATA) : A145, A167, A802
ERG code (IATA) : 10L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

No additional information available

SECTION 16: Other information

Date of issue : 28/01/2020
Revision date : 29/01/2022

Full text of H-statements:

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H227	Combustible liquid
H302	Harmful if swallowed.

Shield Engine Cleaner Aerosol

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

H303	May be harmful if swallowed
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H313	May be harmful in contact with skin
H315	Causes skin irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

SDS South Africa

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.