Shield Electrical Contact Cleaner

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010
Issue date: 4/26/2023 Revision date: 4/25/2025 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form	:	Mixture
Trade name	:	Shield Electrical Contact Cleaner
Type of product	:	Cleaning agent
Product code	:	SH1678
Product group	:	Trade product

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

Use of the substance/mixture :

1.3. Supplier's details

Manufacturer
Shield Chemicals (Pty) Ltd
9 London Rd Apex
P.O. Box 1939
1501 Benoni – Gauteng
South Africa
T (011) 421 7111
Contact: Jayson Clark

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
Serious eye damage/eye irritation, Category 2A	H319
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity – Repeated exposure, Category 2	H373
Hazardous to the aquatic environment – Acute Hazard, Category 3	H402
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) :

Signal word (GHS-ZA) : Danger
Hazardous ingredients : 2-propanol, hexane, heptane, n-pentane
Hazard statements (GHS ZA) : H222 - Extremely flammable aerosol
H229 - Pressurised container: May burst if heated
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H373 - May cause damage to organs (Skin, respiratory system/digestive system) through prolonged or repeated exposure (Inhalation, Oral, Dermal)

		H402 - Harmful to aquatic life H411 - Toxic to aquatic life with long lasting effects
Precautionary statements (GHS ZA)	:	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 dusts or mists. P261 - Avoid breathing spray. P264 - Wash hands thoroughly after handling. 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 soap and water 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. P319 - Get medical help if you feel unwell. P321 - Specific treatment (see supplemental first aid instruction on this label). P332+P317 - If skin irritation occurs: Get medical help. 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 a hazardous or special waste collection point.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects	:	Pressurised container: May burst if heated,Extremely flammable aerosol,May cause damage to organs through prolonged or repeated exposure,May cause drowsiness or dizziness,Causes skin irritation,Causes serious eye irritation,Harmful 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
hexane	CAS-No.: 110-54-3 EC Index-No.: 601-037-00-0	28.836 – 57.672	Flam. Liq. 2, H225 Acute Tox. Not classified (Oral) Acute Tox. 5 (Dermal), H313 Skin Irrit. 2, H315 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
heptane	CAS-No.: 142-82-5 EC Index-No.: 601-008-00-2	14.418 – 21.627	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 2, H401 Aquatic Chronic 2, H411

Name	Product identifier	%	Classification according to the United Nations GHS
2-propanol	CAS-No.: 67-63-0 EC Index-No.: 603-117-00-0	15.0 - 20.0	Flam. Liq. 2, H225 Acute Tox. Not classified (Oral) Acute Tox. Not classified (Dermal) Eye Irrit. 2A, H319 STOT SE 3, H336 Asp. Tox. Not classified Aquatic Acute Not classified Aquatic Chronic Not classified
n-pentane	CAS-No.: 109-66-0 EC Index-No.: 601-006-00-1	7.209 – 14.418	Flam. Liq. 2, H225 Acute Tox. 5 (Oral), H303 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
butane, liquefied, under pressure	CAS-No.: 106-97-8 EC Index-No.: 601-004-00-0	10.0 - 20.0	Flam. Gas 1, H220 Pyr. Gas Not classified Press. Gas (Liq.), H280 Acute Tox. Not classified (Inhalation:gas)
propane	CAS-No.: 74-98-6 EC Index-No.: 601-003-00-5	5.0 - 10.0	Flam. Gas 1, H220 Pyr. Gas Not classified Press. Gas (Liq.), H280 Acute Tox. Not classified (Inhalation:gas) Aquatic Acute Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice. Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Causes skin irritation. Irritation.

Symptoms/effects after eye contact : Causes eye irritation. Eye irritation.

Symptoms/effects after ingestion : Dizziness. Harmful if swallowed.

Potential adverse human health effects and symptoms : May cause drowsiness or dizziness. May cause damage to organs (lungs) if inhaled.

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 : Extremely flammable aerosol.

Explosion hazard : Contains gas under pressure; may explode if heated. Pressurised container: May burst if heated.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

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.

Personal protection (Emergency response) : Protective clothing,Safety glasses,Protective goggles,Wear a mask

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with skin and eyes. Remove ignition sources. Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapours/spray. 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 : Mechanically recover the product.

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 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Wear personal protective equipment.

Technical measures : Prevent mechanical heating or sparks (e.g. temperature monitoring, misalignment monitoring of moving parts).

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

Storage conditions : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Storage area : Keep container in a well-ventilated place. Keep locked up. Keep out of direct sunlight. Keep only in the original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-propanol (67-63-0)	
South Africa - Occupational Exposure Limits (Restricted Limits)	
Local name	Propan-2-ol (Isopropyl alcohol)
OEL eight hour TWA [ppm]	500 ppm
OEL eight hour TWA	1225 mg/m³
RHCA - STEL/C [ppm]	400 ppm
RHCA - STEL/C	960 mg/m³ Isopropyl alcohol 980 mg/m³ Propan-2-ol
Remark	Sk
Regulatory reference	Government Notice. R: 1179
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	Isopropyl alcohol (Propan-2-ol)
OEL TWA	980 mg/m³
OEL TWA	400 ppm
OEL STEL	1225 mg/m³
OEL STEL	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	1800 mg/m³
OEL TWA	1000 ppm
Regulatory reference	Government Notice No. R 904

butane, liquefied, under pressure (106-97-8)	
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	n-Butane
OEL TWA	1430 mg/m³
OEL TWA	600 ppm
OEL STEL	1780 mg/m³
OEL STEL	750 ppm
Regulatory reference	Government Notice No. R 904

hexane (110-54-3)	
South Africa - Occupational Exposure Limits (Restricted Limits)	
Local name	n-Hexane
RHCA - STEL/C [ppm]	100 ppm
Remark	SKIN (danger of cutaneous absorption)
Regulatory reference	Government Notice No. R. 280, 2021

hexane (110-54-3)	
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	n-Hexane
OEL TWA	70 mg/m³
OEL TWA	20 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

Personal protective equipment symbol(s):

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 : Colourless to light yellow.
Odour : No data available
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 : Extremely flammable aerosol.
Vapour pressure : No data available
Vapour pressure at 50°C : No data available
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
Partition coefficient n-octanol/water (Log Pow) : No data available
Partition coefficient n-octanol/water (Log Kow) : No data available
Viscosity, kinematic : No data available

Viscosity, dynamic	:	No data available
Explosive properties	:	Pressurised container: May burst if heated.
Oxidising properties	:	No data available
Explosive limits	:	No data available
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable aerosol. Pressurised container: May burst if heated.

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

2-propanol (67-63-0)	
LD50 oral rat	5840 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	16400 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat [ppm]	> 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))

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	1442.738 – 1443 mg/l 15 MIN
LC50 Inhalation - Rat [ppm]	800000 ppm 15 MIN

hexane (110-54-3)	
LD50 oral rat	16000 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	> 3350 mg/kg bodyweight (Equivalent or similar to OECD 402, 4 h, Rabbit, Male, Read-across, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 17.6 mg/l air (Equivalent or similar to OECD 403, 24 h, Rat, Male, Experimental value, Inhalation (vapours))

heptane (142-82-5)	
LD50 oral rat	> 5000 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 29.29 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), > 4 day(s))

n-pentane (109-66-0)	
LD50 oral rat	> 2000 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LC50 Inhalation - Rat	> 20 mg/l air (4 h, Rat, Male / female, Experimental value, Inhalation (vapours))

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

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.

2-propanol (67-63-0)	
STOT-single exposure	Not available

hexane (110-54-3)	
STOT-single exposure	Not available

heptane (142-82-5)	
STOT-single exposure	Not available

n-pentane (109-66-0)	
STOT-single exposure	Not available

STOT-repeated exposure : May cause damage to organs (Skin, respiratory system/digestive system) through prolonged or repeated exposure (Inhalation, Oral, Dermal).

hexane (110-54-3)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Shield Electrical Contact Cleaner	
Vaporizer	Aerosol

2-propanol (67-63-0)	
Animal studies and expert judgment for classification	False

propane (74-98-6)	
Animal studies and expert judgment for classification	False

butane, liquefied, under pressure (106-97-8)	
Animal studies and expert judgment for classification	False

hexane (110-54-3)	
Animal studies and expert judgment for classification	False

heptane (142-82-5)	
Animal studies and expert judgment for classification	False

n-pentane (109-66-0)	
Animal studies and expert judgment for classification	False

Potential adverse human health effects and symptoms : May cause drowsiness or dizziness. May cause damage to organs (lungs) if inhaled.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short–term (acute) : Harmful to aquatic life.

Hazardous to the aquatic environment, long–term (chronic) : Toxic to aquatic life with long lasting effects.

2-propanol (67-63-0)	
LC50 - Fish [1]	9640 – 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
BCF - Fish [1]	1015 (BCFBAF v3.01, Estimated value)
Partition coefficient n-octanol/water (Log Pow)	0.05 (Weight of evidence approach, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.185 – 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

propane (74-98-6)	
LC50 - Fish [1]	50 mg/l (96 h, Pisces, Fresh water, QSAR, Estimated value)
Partition coefficient n-octanol/water (Log Pow)	1.1 – 2.8 (Experimental value, 20 °C)

butane, liquefied, under pressure (106-97-8)	
LC50 - Fish [1]	1000 mg/l (96 h, Pimephales promelas, QSAR)
Partition coefficient n-octanol/water (Log Pow)	2.8 (Experimental value, 20 °C)

hexane (110-54-3)	
BCF - Fish [1]	501.187 (Pimephales promelas, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	4 (Experimental value, Equivalent or similar to OECD 107, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.34 (log Koc, QSAR)

heptane (142-82-5)	
EC50 72h - Algae [1]	4.338 mg/l (Pseudokirchneriella subcapitata, Fresh water, QSAR, Biomass)
BCF - Other aquatic organisms [1]	552 (BCFBAF v3.00, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	4.5 (Literature)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.38 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

n-pentane (109-66-0)	
LC50 - Fish [1]	4.3 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	2.7 mg/l (48 h, Daphnia magna, Static system, Fresh water, Experimental value)
ErC50 algae	11 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	3.5 (Experimental value, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.9 (log Koc, QSAR)

12.2. Persistence and degradability

Shield Electrical Contact Cleaner	
Persistence and degradability	No additional information available

2-propanol (67-63-0)	
Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.19 g O_2/g substance
Chemical oxygen demand (COD)	2.23 g O_2/g substance
ThOD	2.4 g O_2/g substance

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.

hexane (110-54-3)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
ThOD	3.52 g O_2/g substance

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

n-pentane (109-66-0)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

Shield Electrical Contact Cleaner	
Bioaccumulative potential	No additional information available

2-propanol (67-63-0)	
BCF - Fish [1]	1015 (BCFBAF v3.01, Estimated value)
Partition coefficient n-octanol/water (Log Pow)	0.05 (Weight of evidence approach, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.185 – 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

2-propanol (67-63-0)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

propane (74-98-6)	
Partition coefficient n-octanol/water (Log Pow)	1.1 – 2.8 (Experimental value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

butane, liquefied, under pressure (106-97-8)	
Partition coefficient n-octanol/water (Log Pow)	2.8 (Experimental value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

hexane (110-54-3)	
BCF - Fish [1]	501.187 (Pimephales promelas, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	4 (Experimental value, Equivalent or similar to OECD 107, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.34 (log Koc, QSAR)
Bioaccumulative potential	Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).

heptane (142-82-5)	
BCF - Other aquatic organisms [1]	552 (BCFBAF v3.00, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	4.5 (Literature)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.38 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

n-pentane (109-66-0)	
Partition coefficient n-octanol/water (Log Pow)	3.5 (Experimental value, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.9 (log Koc, QSAR)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

Shield Electrical Contact Cleaner	
Mobility in soil	No additional information available

2-propanol (67-63-0)	
Surface tension	No data available (test not performed)
Partition coefficient n-octanol/water (Log Pow)	0.05 (Weight of evidence approach, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.185 – 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

propane (74-98-6)	
Surface tension	No data available in the literature
Partition coefficient n-octanol/water (Log Pow)	1.1 – 2.8 (Experimental value, 20 °C)
Ecology - soil	Not applicable (gas).

butane, liquefied, under pressure (106-97-8)	
Surface tension	No data available in the literature

butane, liquefied, under pressure (106-97-8)	
Partition coefficient n-octanol/water (Log Pow)	2.8 (Experimental value, 20 °C)
Ecology - soil	Not applicable (gas).

hexane (110-54-3)	
Surface tension	17.89 mN/m (25 °C, 1 g/l)
Partition coefficient n-octanol/water (Log Pow)	4 (Experimental value, Equivalent or similar to OECD 107, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.34 (log Koc, QSAR)
Ecology - soil	Low potential for mobility in soil.

heptane (142-82-5)	
Surface tension	19.66 mN/m (25 °C)
Partition coefficient n-octanol/water (Log Pow)	4.5 (Literature)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.38 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

n-pentane (109-66-0)	
Surface tension	15.49 mN/m (25 °C, 100 %)
Partition coefficient n-octanol/water (Log Pow)	3.5 (Experimental value, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.9 (log Koc, QSAR)
Ecology - soil	Low potential for adsorption in soil.

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.

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
14.3. Transport hazard class(es)		
2.1	2.1	2.1

SANS	IMDG	IATA
		
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
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 Packing instructions (SANS)	:	P003
Packagings, large packagings and IBCs Special packing instructions (SANS)	:	PP17, PP87

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
Stowage and handling (IMDG)	:	SW1, SW22
Segregation (IMDG)	:	SG69

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

Issue date	:	26/04/2023
Revision date	:	25/04/2025

Full text of H-statements	
H220	Extremely flammable gas
H225	Highly flammable liquid and vapour
H280	Contains gas under pressure; may explode if heated
H303	May be harmful if swallowed
H304	May be fatal if swallowed and enters airways
H313	May be harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H373	May cause damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet (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.