Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH)

Initial preparation date: 03.20.2018

Revision date: 10.26.2020

Heavy Duty Solution

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

1.1 Product identifier

Product Name: Heavy Duty Solution

Product code: 708F

Additional information: Rev 4

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

Relevant identified uses: Not determined or not applicable.

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

1.3 Details of the manufacturer/supplier of the safety data sheet

Manufacturer:
North America
Tech International
200 East Coshocton Street
Johnstown, OH 43031
1-740-967-9015
www.tech-international.com

Supplier:
European Union
Tech International Europe
Koeybleuken 16
2300 Turnhout, Belgium
00 32 1442 3103
techeurope@trc4r.com

1.4 Emergency telephone number:

European Union
CHEMTREC
Brussels +(32) - 28083237

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture:

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

Flammable liquids, category 2
Skin irritation, category 2
Skin sensitization, category 1
Specific target organ toxicity - single exposure, category 3, central nervous system
Chronic aquatic hazard, category 2

Hazard-determining components of labeling:

Zinc Bis(dibutyldithiocarbamate)
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics
Heptane

2.2 Label elements

Hazard pictograms:

Signal word: Danger

Hazard statements:

H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash skin thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P370+P378 In case of fire: Use agents recommended in Section 5 to extinguish.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P362+P364 Take off contaminated clothing and wash it before reuse.
P321 Specific treatment (see supplemental first aid instructions on this label).
P333+P313 If skin irritation or a rash occurs: Get medical advice/attention
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P391 Collect spillage
P403+P235 Store in a well ventilated place. Keep cool.
P405 Store locked up.
P403+P233 Store in a well ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards: None known

SECTION 3: Composition/information on ingredients

3.1 Substance: Not applicable.

3.2 Mixture:

Identification	Name	Classification according to Regulation (EC) No. 1272/2008 (CLP)	Weight %
CAS number: 64742-49-0 EC number: 265-151-9 REACH: 01-2119475515-33-0015	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Stot SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411 Skin Irrit. 2 ; H315 Flam. Liq. 2; H225	>80
CAS number: 136-23-2	Zinc Bis(dibutyldithiocarbamate)	Skin Sens. 1; H317 Skin Irrit. 2 ; H315 Stot SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Eye Irrit. 2; H319	1-5

CAS number: 142-82-5 EC number: 205-563-8	Heptane	Asp. Tox. 1; H304 Skin Irrit. 2 ; H315 Stot SE 3; H336 Flam. Liq. 2; H225 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	<4
CAS number: 5459-93-8 EC number: 226-733-8	Cyclohexyl(ethyl)amine	Acute Tox. 4; H302 Acute Tox. 3; H311 Acute Tox. 4; H332 Skin Corr. 1A; H314 Flam. Liq. 3; H226	<1

Additional information: None
Full Text of H and EUH statements: See section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance

Following inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention

Following skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention

Following eye contact:

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention

Following ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention

4.2 Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Product is highly flammable. Exposure to sources of ignition may cause physical injury

Skin contact may result in redness, pain, burning and inflammation

Dermal exposure may cause an allergic skin reaction. Symptoms may include irritation, redness, pain, rash, inflammation, itching, burning and dermatitis

Inhalation may have adverse effects on the central nervous system. Symptoms may include drowsiness, dizziness, headache, nausea and lowering of consciousness. Acute overexposure via inhalation may result in respiratory distress, confusion and unconsciousness

Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time).

4.3 Indication of any immediate medical attention and special treatment needed

Specific treatment:

Skin/eye burns require immediate treatment.

Overexposure via inhalation requires urgent medical treatment.

Notes for the doctor:

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Use Water (fog only), dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

5.2 Special hazards arising from the substance or mixture:

Highly flammable liquid. Will be easily ignitable by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation.

5.3 Advice for firefighters

Personal protection equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

Special precautions:

Evacuate non-essential personnel. Ventilate closed spaces before entering. Consider initial evacuation for 300 meters in all directions. If tank/rail car is involved in the fire, ISOLATE for 800 meters in all directions. Fight fire from a maximum distance. Move containers from fire area if you can do it without risk. Use water spray/fog for cooling fire exposed containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles. If this is impossible, withdraw from area and let fire burn. Stand by, at a safe distance, with extinguisher ready for possible re-ignition. A vapor-suppressing foam may be used to reduce vapors. Avoid unnecessary run-off of extinguishing media which may cause pollution. Do not handle damaged containers unless specialized to do so.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. All equipment used when handling the product must be grounded. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. A vapor-suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

6.4 Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating and lighting equipment. Take action to prevent static discharges. Handle containers with caution. Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

7.2 Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

7.3 Specific end use(s):

Refer to Section 1 (Recommended Use).

SECTION 8: Exposure controls/personal protection



8.1 Control parameters

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Romania	Cyclohexyl(ethyl)amine	5459-93-8	8-hour TWA: 15 mg/m³, 2.9 ppm
	Cyclohexyl(ethyl)amine	5459-93-8	15-minute STEL: 30 mg/m³, 5.8 ppm
	Cyclohexyl(ethyl)amine	5459-93-8	8-hour TWA: 15 mg/m³ (2.9 ppm)
	Cyclohexyl(ethyl)amine	5459-93-8	15-minute STEL: 30 mg/m³ (5.8 ppm)
	Heptane	142-82-5	8-hour TWA: 2085 mg/m³ (500 ppm)
Poland	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0	STEL: 1500 mg/m³
	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0	TWA: 500 mg/m³
	Heptane	142-82-5	8-hour TWA (NDS): 1200 mg/m³
	Heptane	142-82-5	15-minute STEL (NDSCh): 2000 mg/m³
Bulgaria	Heptane	142-82-5	TWA: 1600 mg/m³
Croatia	Heptane	142-82-5	Maximum (8 hr) allowable concentration: 500 ppm (2085 mg/m³)
Czech Republic	Heptane	142-82-5	8-hour TWA: 1000 mg/m³
	Heptane	142-82-5	Ceiling limit (NPK-P): 2000 mg/m³
Estonia	Heptane	142-82-5	8-hour TWA: 500 ppm (2085 mg/m³)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Hungary	Heptane	142-82-5	8-hour TWA (ÁK Value): 2000 mg/m³
	Heptane	142-82-5	60-minute STEL (CK value): 8000 mg/m³
Latvia	Heptane	142-82-5	8-hour TWA: 350 mg/m³ (85 ppm)
	Heptane	142-82-5	15-minute STEL: 2085 mg/m³ (500 ppm)
Lithuania	Heptane	142-82-5	8-hour TWA: 2085 mg/m³ (500 ppm)
	Heptane	142-82-5	15-minute STEL: 3128 mg/m³ (750 ppm)
Malta	Heptane	142-82-5	TWA: 500 ppm (2085 mg/m³)
Slovakia	Zinc Bis(dibutyldithiocarbamate)	136-23-2	8-hour TWA (NPEL): 0.1 mg/m³ (respirable fraction)
	Heptane	142-82-5	8-hour TWA (NPEL): 500 ppm (2085 mg/m³)
	Zinc Bis(dibutyldithiocarbamate)	136-23-2	8-hour TWA (NPEL): 2 mg/m³ (inhalable fraction)
Slovenia	Heptane	142-82-5	8-hour TWA: 2085 mg/m³ (500 ppm)
European Union	Heptane	142-82-5	IOEL threshold limit: 2085 mg/m³ (500 ppm)
	Heptane	142-82-5	SCOEL 8-hour TWA: 500 ppm (2085 mg/m³)
Belgium	Heptane	142-82-5	8-hour TWA: 400 ppm (1664 mg/m³)
	Heptane	142-82-5	15-minute STEL: 500 ppm (2085 mg/m³)
Denmark	Heptane	142-82-5	TWA: 200 ppm (820 mg/m³)
Finland	Heptane	142-82-5	8-hour limit: 300 ppm (1200 mg/m³)
	Heptane	142-82-5	15-minute limit: 500 ppm (2100 mg/m³)
France	Heptane	142-82-5	Time weighted average (VME): 400 ppm (1668 mg/m³)
	Heptane	142-82-5	Short term exposure limit: 500 ppm (2085 mg/m³)
Germany	Heptane	142-82-5	AGW limit value: 500 ppm (2100 mg/m³)
	Heptane	142-82-5	AGW Short term (15 min) exposure limit: 500 ppm (2100 mg/m³)
Greece	Heptane	142-82-5	8-hour TWA:: 500 ppm (2000 mg/m³)
	Heptane	142-82-5	15-minute STEL: 500 ppm (2000 mg/m³)
Ireland	Heptane	142-82-5	8-hour OEL (TWA): 500 ppm (2085 mg/m³)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Italy	Heptane	142-82-5	8-hour TWA: 500 ppm (2085 mg/m³)
Netherlands	Heptane	142-82-5	Binding 8-hour TWA: 1200 mg/m³
	Heptane	142-82-5	Binding STEL (15 min): 1600 mg/m³
Portugal	Heptane	142-82-5	Decree-Law No. 24/2012 8-hour TWA: 500 ppm (2085 mg/m³)
	Heptane	142-82-5	NP 1796-2007 8-hour exposure limit: 400 ppm
	Heptane	142-82-5	NP 1796-2007 Short-term exposure limit: 500 ppm
Spain	Heptane	142-82-5	8-hour daily exposure limit (VLA-ED): 500 ppm (2085 mg/m³)
Sweden	Heptane	142-82-5	Level Limit Value (NGV): 200 ppm (800 mg/m³)
	Heptane	142-82-5	Short Term Limit (KTV): 300 ppm (1200 mg/m³)
United Kingdom	Heptane	142-82-5	TWA: 500 ppm (2085 mg/m³)
Luxembourg	Heptane	142-82-5	TWA: 500 ppm (2085 mg/m³)
Austria	Heptane	142-82-5	TWA: 2000 mg/m³ (500 ppm)
	Heptane	142-82-5	STEL: 8000 mg/m³ (2000 ppm)

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):

Not determined or not applicable.

Predicted No Effect Concentration (PNEC):

Not determined or not applicable.

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls Biological monitoring may also be appropriate for some substances

8.2 Exposure controls

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Use explosion-proof ventilation equipment.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Wear appropriate clothing to prevent any possibility of skin contact.

For continuous contact we recommend nitrile gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified.

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Use a European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Comply with the European Standard EN149.

General hygienic measures:

Avoid contact with skin, eyes and clothing.

Wash hands before breaks and at the end of work.

Wash contaminated clothing before reuse.

Environmental exposure controls:

Select controls based on a risk assessment of local conditions.

See section 6 for information on accidental release measures.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Tan viscous liquid
Odor	Strong solvent
Odor threshold	Not determined or not available.
pH	Not determined or not available.
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	190°F (88°C)
Flash point (closed cup)	15 °F (-9 °C)
Evaporation rate	> 1 (n-BuAC = 1)
Flammability (solid, gas)	Flammable liquid
Upper flammability/explosive limit	6.7% (V)
Lower flammability/explosive limit	1.2% (V)
Vapor pressure	119 mmHg @ 20°C
Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	0.71 g/cm^3 (6.21 lbs./gal) @ 20°C
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.
Kinematic viscosity	2000 mm2/sec @ 40°C
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

9.2 Other information

VOC	635 g/L

SECTION 10: Stability and reactivity

10.1 Reactivity:
Not reactive under recommended handling and storage conditions.

10.2 Chemical stability:
Stable under recommended handling and storage conditions.

10.3 Possibility of hazardous reactions:
Hazardous reactions are not anticipated under recommended conditions of handling and storage.

10.4 Conditions to avoid:
Extreme heat, open flames, hot surfaces, sparks, ignition sources, static electricity and incompatible materials. Vapor accumulation in low or confined areas.

10.5 Incompatible materials:
None known.

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

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

Product data: No data available.

Substance data:

Name	Route	Result
Heptane	inhalation	LC50 Rat: > 29.29 mg/L (4 hr)
	oral	LD50 Rat: > 5000 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	oral	LD50 Rat: > 5000 mg/kg
	dermal	LD50 Rabbit: > 2000 mg/kg
	inhalation	LC50 Rat: > 4.42 mg/L (4 hr, vapor)
Cyclohexyl(ethyl)amine	oral	LD50: Rat - 590 mg/kg

Skin corrosion/irritation

Assessment:
Causes skin irritation

Product data:
No data available.

Substance data:

Name	Result
Heptane	Causes skin irritation.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Causes skin irritation.
Cyclohexyl(ethyl)amine	Causes severe skin burns and eye damage.
	Causes severe skin burns and eye damage.
Zinc Bis(dibutyldithiocarbamate)	Causes skin irritation.

Serious eye damage/irritation

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

Product data:
No data available.

Substance data:

Name	Result
Zinc Bis(dibutyldithiocarbamate)	Causes serious eye irritation.

Respiratory or skin sensitization

Assessment:

May cause an allergic skin reaction

Product data:

No data available.

Substance data:

Name	Result
Zinc Bis(dibutyldithiocarbamate)	May cause an allergic skin reaction.

Carcinogenicity

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

Product data: No data available.

Substance data:

Name	Species	Result
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Not applicable	The carcinogenic classification applies to naphtha streams containing >0.1% Benzene.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

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

Product data: No data available.

Substance data:

Name	Result
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	The mutagenic classification applies to naphtha streams containing >0.1% Benzene.

Reproductive Toxicity

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

Product data:

No data available.

Substance data:

Name	Result
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	The classification as a reproductive toxicant only applies when the naphtha stream contains >3% toluene and/or n-hexane.

Specific target organ toxicity (single exposure)

Assessment:

May cause drowsiness or dizziness

Product data:

No data available.

Substance data:

Name	Result
Heptane	May cause drowsiness or dizziness.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	May cause drowsiness or dizziness.
Zinc Bis(dibutyldithiocarbamate)	May cause respiratory irritation.

Specific target organ toxicity (repeated exposure)

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

Product data:

No data available.

Substance data: No data available.

Aspiration toxicity

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

Product data:

No data available.

Substance data:

Name	Result
Heptane	May be fatal if swallowed and enters airways.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	May be fatal if swallowed and enters airways.

Information on likely routes of exposure:

Dermal, ocular, inhalation, and oral.

Symptoms related to the physical, chemical and toxicological characteristics:

See section 4 of this SDS.

Other information:

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute (short-term) toxicity

Assessment:

Toxic to aquatic life

Product data: No data available.

Substance data:

Name	Result
Zinc Bis(dibutyldithiocarbamate)	EC50 - Daphnia magna - 0.74 mg/L - 48 hr
	NOEC - Daphnia magna - 0.0032 mg/L - 21 d
Heptane	LC50 - Carassius auratus (goldfish) - 4 mg/l - 24.0 h
	EC50 - Daphnia magna - 82.5 mg/L - 96 h
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	ErC50 Selenastrum capricornutum: 3.1 mg/L (72 hr)
	EC50 Daphnia magna: 4.5 mg/L (48 hr)

Chronic (long-term) toxicity

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

Product data: No data available.

Substance data:

Name	Result
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	EC50 Daphnia magna: 10 mg/L (10 days)

12.2 Persistence and degradability

Product data: No data available.

Substance data:

Name	Result
Heptane	Readily biodegradable in water.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance (UVCB).

12.3 Bioaccumulative potential

Product data: No data available.

Substance data:

Name	Result
Heptane	Calculated BCF: 552 (Not expected to bioaccumulate).
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance (UVCB).

12.4 Mobility in soil

Product data: No data available.

Substance data:

Name	Result
Heptane	Moderately Mobile (log Koc: 2.38)

12.5 Results of PBT and vPvB assessment

PBT assessment:

Heptane	This substance is not PBT.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	This substance is not PBT.

vPvB assessment:

Heptane	This substance is not vPvB.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	This substance is not vPvB.

12.6 Other adverse effects: No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Relevant information:

Consult with EU Directive 2008/98/EC for the classifications of hazardous waste prior to disposal. Furthermore, consult with your regional, national or European waste requirements or guidelines, if applicable, to ensure compliance. Final decisions on the appropriate waste management method, in line with regional, national and European legislation, remains the responsibility of the waste treatment operator Dispose in accordance with all applicable regulations. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

International Carriage of Dangerous Goods by Road/Rail (ADR/RID)

UN number	UN1993
UN proper shipping name	Flammable Liquid, N.O.S. (Heptane and Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	Marine Pollutant (Heptane, Zinc bis(dibutyldithiocarbamate))
Special precautions for user	None
Classification code	F1
Tank code	LGBF
Transport category	2
Tunnel restriction code	D/E
Hazard identification	33
Excepted quantities	E2
Limited quantity	1 L

International Carriage of Dangerous Goods by Inland Waterways (ADN)

UN number	UN1993
UN proper shipping name	Flammable Liquid, N.O.S. (Heptane and Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	Marine Pollutant (Heptane, Zinc bis(dibutyldithiocarbamate))
Special precautions for user	None
Excepted quantities	E2
Limited quantity	1 L

International Maritime Dangerous Goods (IMDG)

UN number	UN1993
UN proper shipping name	Flammable Liquid, N.O.S. (Heptane and Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	Marine Pollutant (Heptane, Zinc bis(dibutyldithiocarbamate))
Special precautions for user	None
EMS number	F-E, S-E
Stowage category	B
Excepted quantities	E2
Limited quantity	1 L

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN1993
UN proper shipping name	Flammable Liquid, N.O.S. (Heptane and Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	Marine Pollutant (Heptane, Zinc bis(dibutyldithiocarbamate))
Special precautions for user	None
ERG code	3H
Excepted quantities	E2
Passenger and cargo	5 L
Cargo aircraft only	60 L
Limited quantity	1 L

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	
Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

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

European regulations

Inventory listing (EINECS): All ingredients are listed or exempt.

REACH SVHC candidate list: None of the ingredients are listed.

REACH SVHC Authorizations: None of the ingredients are listed.

REACH Restriction: None of the ingredients are listed.

Water hazard class (WGK) (Product): Not determined.

Water hazard class (WGK) (Substance):

Ingredient Name	CAS	Class
Heptane	142-82-5	2
Zinc Bis(dibutyldithiocarbamate)	136-23-2	2
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0	2
Cyclohexyl(ethyl)amine	5459-93-8	Not applicable.

Other regulations

Germany TA Luft: Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics: Class I; Mass flow: 0.1 kg/hr; Maximum Concentration Allowed if Emissions Exceed Base Rate: 20 mg/m^3

Germany MAK: Zinc bis(dibutyldithiocarbamate): 8-hour TWA: 0.1 mg/m^3 (respirable fraction), Zinc bis(dibutyldithiocarbamate): 8-hour TWA: 2 mg/m^3 (inhalable fraction), Heptane: 8-hour TWA: 500 ppm (2100 mg/m^3)

15.2 Chemical Safety Assessment

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

SECTION 16: Other information

Indication of changes:

October 26th, 2020: Reviewed/updated to comply with the 12th and 14th Adaptations to Technical Progress (ATP) of the CLP Regulation. No significant changes

Abbreviations and Acronyms: None

Classification procedure:

Classification according to Regulation (EC) No. 1272/2008 (CLP)	Method Used
Flammable liquids, category 2	Calculation method
Skin irritation, category 2	Calculation method
Skin sensitization, category 1	Calculation method
Specific target organ toxicity - single exposure, category 3, central nervous system	Calculation method
Chronic aquatic hazard, category 2	Calculation method

Summary of classification(s) in section 3:

Stot SE 3; H336	Specific target organ toxicity - single exposure, category 3, central nervous system
Asp. Tox. 1; H304	Aspiration hazard, category 1
Aquatic Chronic 2; H411	Chronic aquatic hazard, category 2
Skin Irrit. 2 ; H315	Skin irritation, category 2
Flam. Liq. 2; H225	Flammable liquids, category 2
Skin Sens. 1; H317	Skin sensitization, category 1
Stot SE 3; H335	Specific target organ toxicity - single exposure, category 3, respiratory irritation
Aquatic Acute 1; H400	Acute aquatic hazard, category 1
Aquatic Chronic 1; H410	Chronic aquatic hazard, category 1
Eye Irrit. 2; H319	Eye irritation, category 2A
Acute Tox. 4; H302	Acute toxicity (oral), category 4
Acute Tox. 3; H311	Acute toxicity (dermal), category 3
Acute Tox. 4; H332	Acute toxicity (inhalation), category 4
Skin Corr. 1A; H314	Skin corrosion, category 1A
Flam. Liq. 3; H226	Flammable liquids, category 3

Summary of hazard statements in section 3:

H336	May cause drowsiness or dizziness
H304	May be fatal if swallowed and enters airways
H411	Toxic to aquatic life with long lasting effects
H315	Causes skin irritation
H225	Highly flammable liquid and vapour
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H319	Causes serious eye irritation
H302	Harmful if swallowed
H311	Toxic in contact with skin
H332	Harmful if inhaled
H314	Causes severe skin burns and eye damage
H226	Flammable liquid and vapour

Disclaimer:

This product has been classified in accordance with EC No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and EC No. 1907/2006 (REACH). The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation, and disposal 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, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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End of Safety Data Sheet