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

1.1 Product identifier

Trade name : RENLEASE® QZ 5111

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

Use of the Substance/Mixture : Use in binder and release agents

1.3 Details of the supplier of the safety data sheet

Company : Huntsman Advanced Materials (Europe)BVBA
Address : Everslaan 45
3078 Everberg
Belgium
Telephone : +41 61 299 20 41
Telefax : +41 61 299 20 40

E-mail address of person responsible for the SDS : Global_Product_EHS_AdMat@huntsman.com

1.4 Emergency telephone number

Emergency telephone number : EUROPE: +32 35 75 1234
France ORFILA: +33(0)145425959
ASIA: +65 6336-6011
China: +86 20 39377888
+86 532 83889090
India: + 91 22 42 87 5333
Australia: 1800 786 152
New Zealand: 0800 767 437
USA: +1/800/424.9300

Supplied by:
Sil-Mid Limited
Roman Park, Roman Way
Coleshill, West Midlands
B46 1HG. UK
T: 01675 432850
E: info@silmid.com

Emergency Telephone No. +44 (0)1675 432850
(Monday to Friday, 08:00 – 17:30 – GMT)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2	H225: Highly flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
Response:	
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331	Do NOT induce vomiting.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391	Collect spillage.

Hazardous components which must be listed on the label:
Naphtha (petroleum), hydrotreated light

Methylcyclohexane

octane

hexane (containing < 5 % n-hexane (203-777-6))

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No.	Classification	Concentration

	Registration number		(% w/w)
Naphtha (petroleum), hydrotreated light	64742-49-0 265-151-9 649-328-00-1 01-2119475133-43	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 70 - < 90
octane	111-65-9 203-892-1 601-009-00-8 01-2119463939-19	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 2.5 - < 10
Methylcyclohexane	108-87-2 203-624-3 601-018-00-7 01-2119556887-18	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1	>= 2.5 - < 10
hexane (containing < 5 % n-hexane (203-777-6))	107-83-5 203-523-4 601-007-00-7 01-2120768140-61	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 2.5 - < 10
cyclohexane	110-82-7 203-806-2 601-017-00-1 01-2119463273-41	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 2.5 - < 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Treat symptomatically.
Get medical attention if symptoms occur.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
No action shall be taken involving any personal risk or without suitable training.

If inhaled : Consult a physician after significant exposure.
If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing media : Exercise caution when using a high volume water jet as it may scatter and spread fire

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : No hazardous combustion products are known

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Refer to protective measures listed in sections 7 and 8.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

For disposal considerations see section 13., See Section 1 for emergency contact information., For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Keep in properly labelled containers.
Advice on common storage	:	For incompatible materials please refer to Section 10 of this SDS.
Recommended storage temperature	:	2 - 40 °C
Further information on storage stability	:	Stable under normal conditions.

7.3 Specific end use(s)

Specific use(s)	:	No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
cyclohexane	110-82-7	TWA	200 ppm 700 mg/m3	2006/15/EC
Further information	Indicative			
		TWA	100 ppm 350 mg/m3	GB EH40
		STEL	300 ppm 1,050 mg/m3	GB EH40

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Methylcyclohexane	Workers	Inhalation	Long-term systemic effects	64.3 mg/m3
	Workers	Inhalation	Acute systemic effects	1354.6 mg/m3
	Workers	Dermal	Long-term systemic effects	1.7 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	16 mg/m3
	Consumers	Inhalation	Acute systemic effects	1016 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.8 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0.4 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Methylcyclohexane	Fresh water	1.34 µg/l
	Marine water	0.134 µg/l
	Freshwater - intermittent	13.4 µg/l
	Fresh water sediment	0.036 mg/kg dry weight (d.w.)
	Marine sediment	0.003 mg/kg dry weight (d.w.)
	Sewage treatment plant	273 µg/l
	Soil	0.01 mg/kg dry weight (d.w.)

8.2 Exposure controls

Personal protective equipment

Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles
Hand protection Material	:	butyl-rubber
Material	:	Nitrile rubber
Break through time	:	10 - 480 min
Material	:	Ethyl Vinyl Alcohol Laminate (EVAL)
Break through time	:	> 8 h
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	:	In the case of vapour formation use a respirator with an approved filter. Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Filter type	:	Organic vapour type (A)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	Emulsion
Colour	:	colourless
Odour	:	solvent-like
Odour Threshold	:	No data is available on the product itself.
pH	:	No data is available on the product itself.
Melting point/freezing point	:	No data available
Boiling point	:	84 °C
Flash point	:	-8.99 °C Method: Pensky-Martens closed cup
Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.

Burning rate	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	7.7 %(V)
Lower explosion limit / Lower flammability limit	:	0.6 %(V)
Vapour pressure	:	ca. 290 hPa (50 °C)
Relative vapour density	:	No data is available on the product itself.
Relative density	:	ca. 0.71 (20 °C)
Density	:	ca. 0.71 g/cm3 (20 °C) Method: DIN 53217
Solubility(ies)		
Water solubility	:	practically insoluble (20 °C)
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Auto-ignition temperature	:	250 °C
Decomposition temperature	:	No data is available on the product itself.
Viscosity		
Viscosity, dynamic	:	ca. 30 mPa.s Method: ISO 3219
Viscosity, kinematic	:	7 - 20 mm2/s (40 °C)
Flow time	:	26 s Cross section: 4 mm Method: DIN 53211
Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	No data is available on the product itself.

9.2 Other information

Molecular weight	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Strong acids
Strong oxidizing agents

10.6 Hazardous decomposition products

Carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

Naphtha (petroleum), hydrotreated light:
Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401

octane:
Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401

Methylcyclohexane:
Acute oral toxicity : LD50 (Rabbit): 4,000 - 4,500 mg/kg

cyclohexane:
Acute oral toxicity : LD50 (Rat): 5,500 - 6,000 mg/kg

LD50 (Rat): 12,705 mg/kg
Method: No information available.

Components:

Naphtha (petroleum), hydrotreated light:
Acute inhalation toxicity : LC50 (Rat, male and female): > 7,630 mg/l
Exposure time: 4 h
Test atmosphere: vapour

octane:

Acute inhalation toxicity : LC50 (Rat, male and female): > 24.88 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Methylcyclohexane**:**
Acute inhalation toxicity : LC50 (Rat): > 26.3 mg/l
Exposure time: 1 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

cyclohexane**:**
Acute inhalation toxicity : LC50 (Rat, male and female): > 19,070 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

Components:

Naphtha (petroleum), hydrotreated light**:**
Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

octane**:**
Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Methylcyclohexane**:**
Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Components:

Naphtha (petroleum), hydrotreated light**:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

octane**:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Methylcyclohexane**:**
Species: Rabbit
Result: Skin irritation

hexane (containing < 5 % n-hexane (203-777-6))**:**
Assessment: Irritating to skin.

cyclohexane**:**
Result: Skin irritation

Serious eye damage/eye irritation

Components:

Naphtha (petroleum), hydrotreated light**:**
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

octane**:**
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Methylcyclohexane**:**
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Respiratory or skin sensitisation

Components:

Naphtha (petroleum), hydrotreated light**:**
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

octane**:**
Test Type: Maximisation Test
Exposure routes: Dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Methylcyclohexane**:**

Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Assessment: No data available

Germ cell mutagenicity

Components:

Naphtha (petroleum), hydrotreated light**:**
Genotoxicity in vitro : Test Type: Ames test
Result: negative

: Test Type: In vitro mammalian cell gene mutation test
Result: negative

octane**:**
Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Test system: human lymphoblastoid cells
Concentration: 5% v/v
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

: Test Type: Chromosome aberration test in vitro
Test system: rat hepatocytes
Concentration: 2.5, 5, 10µg/ml
Method: OECD Test Guideline 473
Result: negative

: Test Type: Ames test
Test system: Salmonella tryphimurium and E. coli
Concentration: 250µg/ml
Metabolic activation: with and without metabolic activation
Method: No information available.
Result: negative

Methylcyclohexane**:**
Genotoxicity in vitro : Concentration: 8 - 100 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

: Concentration: 61.3 - 980 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

: Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Components:

Naphtha (petroleum), hydrotreated light**:**

Genotoxicity in vivo : Test Type: Micronucleus test
Application Route: Inhalation
Result: negative

Test Type: In vivo micronucleus test
Test species: Rat
Application Route: Intraperitoneal injection
Result: negative

Germ cell mutagenicity-Assessment : No data available

Carcinogenicity

Components:

Naphtha (petroleum), hydrotreated light**:**
Species: Mouse, male
Application Route: Dermal
Result: negative

Carcinogenicity - Assessment : No data available

Reproductive toxicity

Components:

Naphtha (petroleum), hydrotreated light**:**

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: inhalation (vapour)
General Toxicity - Parent: No observed adverse effect level: >= 20,000 mg/m³
General Toxicity F1: No observed adverse effect level: >= 20,000 mg/m³
Method: OECD Test Guideline 416
Result: No effects on fertility and early embryonic development were detected.

octane**:**

Test Type: Two-generation study
Species: Rat, male and female
Application Route: inhalation (vapour)
Dose: 0,900,3000,9000 parts per million

Duration of Single Treatment: 6 h
Frequency of Treatment: 5 days/week
General Toxicity - Parent: No observed adverse effect level: 31,680 mg/m³
General Toxicity F1: No observed adverse effect level: 10,560 mg/m³
Method: OECD Test Guideline 416
Result: negative

Methylcyclohexane**:**

Species: Rat, male and female
Application Route: Oral
Dose: 250 milligram per kilogram
Method: OECD Test Guideline 422
Result: negative

Species: Rat, male and female
Application Route: Inhalation
Dose: 2020 mg/m³
Method: OECD Test Guideline 416
Result: negative

Components:

Naphtha (petroleum), hydrotreated light**:**

Effects on foetal development : Species: Rat
Application Route: inhalation (vapour)
General Toxicity Maternal: No observed adverse effect level: 23,900 mg/m³
Teratogenicity: No observed adverse effect level: 23,900 mg/m³
Result: No adverse effects

octane**:**

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: inhalation (vapour)
Dose: 0, 500, 2000, 7000 ppm
Duration of Single Treatment: 12 d
General Toxicity Maternal: No observed adverse effect concentration: > 7,000 ppm
Developmental Toxicity: No observed adverse effect concentration: > 7,000 ppm
Method: OECD Test Guideline 414
Result: No teratogenic effects

Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Dose: 0, 900, 3000, 9000 ppm
Duration of Single Treatment: 9 d
General Toxicity Maternal: No observed adverse effect level: 10,560 mg/m³
Developmental Toxicity: No observed adverse effect level: 31,680 mg/m³

Method: OECD Test Guideline 414
Result: No teratogenic effects

Methylcyclohexane**:**

Species: Rabbit
Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 28,100 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects

Species: Rat
Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 1,720 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects

Reproductive toxicity - Assessment : No data available

STOT - single exposure

Components:

Naphtha (petroleum), hydrotreated light**:**
Exposure routes: inhalation (vapour)
Target Organs: Narcotic effects
Assessment: May cause drowsiness or dizziness.

octane**:**
Exposure routes: inhalation (vapour)
Target Organs: Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Methylcyclohexane**:**
Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause drowsiness or dizziness.

hexane (containing < 5 % n-hexane (203-777-6))**:**
Assessment: May cause drowsiness or dizziness.

cyclohexane**:**
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

No data available

Repeated dose toxicity

Components:

Naphtha (petroleum), hydrotreated light**:**
Species: Rat
NOEL: < 500
Application Route: Oral
Method: No information available.

Species: Rat
NOEL: > 2000
Application Route: Dermal
Method: No information available.

octane**:**
Species: Rat, male and female
NOAEL: 24.3 mg/l
Application Route: inhalation (vapour)
Test atmosphere: vapour
Exposure time: 13 weeks Number of exposures: 6h/d, 5d/wk
Dose: 668, 2220 and 6646ppm
Control Group: yes
Method: OECD Test Guideline 413
Remarks: Information given is based on data obtained from similar substances.

Species: Rat, male
NOAEL: 8.4 mg/l
Application Route: inhalation (vapour)
Test atmosphere: vapour
Exposure time: 13 weeks Number of exposures: 6h/d. 5d/wk
Dose: 1.9, 3.1, 8.4mg/L
Control Group: yes
Method: OECD Test Guideline 413
Remarks: Information given is based on data obtained from similar substances.

Species: Rat, male
NOAEL: > 14 mg/l
Application Route: inhalation (vapour)
Test atmosphere: vapour
Exposure time: 3 days Number of exposures: 8hr/d
Dose: 0, 1.4, 4.2, 14g/m³
Control Group: yes
Method: No information available.

Methylcyclohexane**:**
Species: Rat, male and female
NOAEL: 100 mg/kg
Application Route: Ingestion
Exposure time: 28 d Dose: 100, 300, 1000 mg/kg bw/day
Method: OECD Test Guideline 407

Species: Rat, male and female

NOAEL: 250 mg/kg
Application Route: Ingestion
Exposure time: 28 d Dose: 62.5, 250, 1000 mg/kg bw/da
Method: OECD Test Guideline 422

Species: Rat, male and female
NOEC: 250
Application Route: Ingestion
Test atmosphere: vapour
Exposure time: 8,640 hNumber of exposures: 7 d
Method: Subacute toxicity

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

Components:

Naphtha (petroleum), hydrotreated light**:**
May be fatal if swallowed and enters airways.

octane**:**
May be fatal if swallowed and enters airways.

Methylcyclohexane**:**
May be fatal if swallowed and enters airways.

hexane (containing < 5 % n-hexane (203-777-6))**:**
May be fatal if swallowed and enters airways.

cyclohexane**:**
May be fatal if swallowed and enters airways.

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause narcotic effects.
Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Naphtha (petroleum), hydrotreated light**:**

Toxicity to fish	:	LL50 : 10 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EL50 (Pseudokirchneriella subcapitata (algae)): 3.7 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 201 NOELR (Pseudokirchneriella subcapitata (algae)): 0.5 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR: 2.6 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Method: OECD Test Guideline 211

octane**:**

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): 2.587 mg/l Exposure time: 96 h Method: QSAR
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.3 mg/l Exposure time: 48 h Test Type: static test Method: Other guidelines

Toxicity to algae/aquatic plants	:	EL50 (Pseudokirchneriella subcapitata (algae)): 2.084 mg/l Exposure time: 72 h Method: QSAR NOELR (Pseudokirchneriella subcapitata (algae)): 0.466 mg/l Exposure time: 72 h Method: QSAR
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	EL50 (Tetrahymena pyriformis): 10.86 mg/l Exposure time: 48 h Method: QSAR
Toxicity to fish (Chronic toxicity)	:	0.579 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Method: QSAR
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR: 1 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 NOEC: 0.17 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	:	1

Methylcyclohexane**:**

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): 2.07 mg/l Exposure time: 96 h Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.326 mg/l Exposure time: 48 h Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (algae)): 0.134 mg/l Exposure time: 72 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0.0221 mg/l

Exposure time: 72 h
Test Type: static test
Test substance: Fresh water

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : NOEC (activated sludge): 2.755 mg/l
Exposure time: 14 d
Test Type: static test
Test substance: Fresh water

hexane (containing < 5 % n-hexane (203-777-6))**:**
Ecotoxicology Assessment
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

cyclohexane**:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 4.53 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203

LC50 : 93 - 117 mg/l
Exposure time: 96 h

LC0 : 32 mg/l
Exposure time: 96 h
Method: No information available.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.9 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

EC50 : 3.78 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : IC50 : > 500 mg/l
Exposure time: 72 h

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 4.425 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.925 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : IC50 : 24 mg/l
Exposure time: 15 h

M-Factor (Chronic aquatic toxicity) : 1

12.2 Persistence and degradability

Components:

Naphtha (petroleum), hydrotreated light**:**

Biodegradability : Result: Inherently biodegradable.

octane**:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 70 %
Exposure time: 10 d

Methylcyclohexane**:**

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Photodegradation : Test Type: Air
Rate constant: < .00001
Degradation (direct photolysis): 50 %

cyclohexane**:**

Biodegradability : Result: Not readily biodegradable.
Biodegradation: < 60 %
Exposure time: 28 d

12.3 Bioaccumulative potential

Components:

octane**:**

Bioaccumulation : Species: Other
Exposure time: 105 min
Temperature: 15 °C
Bioconcentration factor (BCF): 198.7

Partition coefficient: n-octanol/water : log Pow: 5.15

Methylcyclohexane**:**

Bioaccumulation : Species: Cyprinus carpio (Carp)
Exposure time: 56 d
Bioconcentration factor (BCF): 95 - 321
Method: flow-through test

Partition coefficient: n-octanol/water : log Pow: 3.88

cyclohexane**:**
Bioaccumulation : Bioconcentration factor (BCF): 89

Partition coefficient: n-octanol/water : log Pow: 3.44

12.4 Mobility in soil

Components:

Naphtha (petroleum), hydrotreated light**:**
Distribution among environmental compartments : Koc: > 60.7 - < 229.2, log Koc: > 1.783 - < 2.36
Method: Calculation method

octane**:**
Distribution among environmental compartments : Koc: 436.8, log Koc: 2.64
Method: Calculation method

Methylcyclohexane**:**
Distribution among environmental compartments : Koc: 233.9

cyclohexane**:**
Distribution among environmental compartments : Koc: 160

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
Dispose of as hazardous waste in compliance with local and national regulations.
Dispose of contents/ container to an approved waste disposal plant.

Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

IATA

14.1 UN number	:	UN 1993
14.2 UN proper shipping name	:	Flammable liquid, n.o.s. (NAPHTA, HYDROTREATED LIGHT AND HEXANE, MIXTURE OF ISOMERS (MAX. 5% N-HEXANE))
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	364
Packing instruction (passenger aircraft)	:	353

IMDG

14.1 UN number	:	UN 1993
14.2 UN proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (NAPHTA, HYDROTREATED LIGHT AND HEXANE, MIXTURE OF ISOMERS (MAX. 5% N-HEXANE))
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Labels	:	3
EmS Code	:	F-E, S-E
14.5 Environmental hazards		
Marine pollutant	:	yes

ADR

14.1 UN number	:	UN 1993
14.2 UN proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (NAPHTA, HYDROTREATED LIGHT AND HEXANE, MIXTURE OF ISOMERS (MAX. 5% N-HEXANE))
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Labels	:	3
14.5 Environmental hazards		
Environmentally hazardous	:	yes

RID

14.1 UN number	:	UN 1993
14.2 UN proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (NAPHTA, HYDROTREATED LIGHT AND HEXANE, MIXTURE OF ISOMERS (MAX. 5% N-HEXANE))
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	II
Labels	:	3
14.5 Environmental hazards		
Environmentally hazardous	:	yes

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P5c	FLAMMABLE LIQUIDS
E2	ENVIRONMENTAL HAZARDS
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national

regulations, where applicable.

The components of this product are reported in the following inventories:

DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

15.2 Chemical safety assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

SECTION 16: Other information

Full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.
H336	:	May cause drowsiness or dizziness.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	:	Short-term (acute) aquatic hazard

Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Flam. Liq.	:	Flammable liquids
Skin Irrit.	:	Skin irritation
STOT SE	:	Specific target organ toxicity - single exposure
2006/15/EC	:	Europe. Indicative occupational exposure limit values
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2006/15/EC / TWA	:	Limit Value - eight hours
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

Further information

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 2	H225	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
STOT SE 3	H336	Calculation method
Asp. Tox. 1	H304	Calculation method
Aquatic Chronic 2	H411	Calculation method

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.