

Material Safety Data Sheet

Complies with EEC directive 1907/2006/EC, Article 31



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Version : 0 / Last revision on date: 03-07-2007

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tradename: Twin Air Liquid Dirt Remover

Chemical characterization

This degreaser is a mixture of hydrocarbons and biodegradable emulsifiers.

Product application

Degreaser

Distributor

Twin Air B.V.
Eisenhowerweg 8
5466 AC Veghel
The Netherlands
+31 (0) 413 343040
+31 (0) 413 340078
info@twinair.com

Telephone

Fax

Email

Emergency telephone

Contact person

2. HAZARDS IDENTIFICATION

Eye

This product may be irritating to the eyes.

Skin

Frequent or continuous skin contact causes irritation.

Inhalation

Narcotic at high concentrations.

Ingestion

Harmful if swallowed.

R-phrases

R38 Irritating to skin.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65 Harmful: may cause lung damage if swallowd.

3. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Component	%Wt	Symbols	CAS	EINECS	R-phrases
Moderate aromatic hydrocarbon (approx. 20% C9-aromats / flashpoint approx. 65°C)	20	Xn,N	64742-81-0	265-184-9	R38,R51/53,R65
Fatty alkylamine ethoxylate	1-10	Xn,N	26635-93-8	500-048-7	R22,R38,R41,R50

4. FIRST AID MEASURES

Eye contact

Flushing for 15 minutes until irritation subsides.

If irritation persists, seek medical attention.

Skin contact

Wash contaminated area thoroughly with soap and water. Remove impregnated clothing.

Inhalation

If victim is unconscious, remove to fresh air and seek medical attention.

Ingestion

Do not induce vomiting due to aspiration hazards. Seek medical advice.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide.

Fire-extinguishing powder.

Foam

Halones

Sand

Never use as an extinguishing media

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Water

Decomposition product(s)

Carbonoxide (COx), nitrogen oxide (NOx), water (H2O).

Decomposition product(s)

During a fire, hazardous smoke may be produced (COx, NOx).

6. ACCIDENTAL RELEASE MEASURES

Personal protective measures

Always wash hands and face with soap and water before eating, drinking, or smoking.

Environmental measures

Do not allow to escape into water sewage system or water courses.

Disposal/cleaning measures

Danger of slipping; take up immediately.

Collect as much as possible in clean containers and dispose according the rules.

Flush remainder with water.



7. HANDLING AND STORAGE

Store in accordance with local/national regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection

Wear safety goggles.

Hand protection

Wear suitable gloves (PVC or rubber).

Skin and body protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Provide adequate ventilation.

Threshold Limit Value (TLV)

Stoddard solvent - OES: 575 mg/m3



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid
Colour	Green
Odour	Characteristic
Meltingpoint (°C)	< 0
Boilingpoint (°C)	> 150
Flashpoint (°C)	> 62
Auto ignition temperature (°C)	> 230
Vapour pressure 20°C (hPa)	< 5
Density 20°C	0.80
pH 100%	-
Viscosity at 20°C (mPas)	-
Conductivity at 20°C (µS)	-
Evaporation rate (n-butylac.=1)	< 1
Explosion limits (%Vol.)	1 - 5
n-Octanol/Water (P log)	< 3
Solubility in water	Emulsable with water.

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Solubility in

Soluble in hydrocarbons.

10. STABILITY AND REACTIVITY

Conditions to avoid

Avoid generation of mists and vapours.
There is no risk of dangerous reactions at normal use.

11. TOXICOLOGICAL INFORMATION

Not carcinogenic
Toxicity (Oral/Dermal) LD50 > 2000 mg/kg

12. ECOLOGICAL INFORMATION

After a longer adaption period, the product is biodegradable.

13. DISPOSAL CONSIDERATIONS

All disposals must comply with federal, state, and local regulations.

14. TRANSPORT INFORMATION



Transport (Land) ADR/RID	9
Description goods	UN 3082, Environmentally hazardous substance, liquid, n.o.s., Hydrocarbons, 9, PG III (E)
Transport (Ship -> Channels) ADN/ADNR	-
Transport (Ship -> Sea) IMDG/GGVE	9
Transport (Ship -> Sea) UN No.	3082
Transport (Ship -> Sea) Packaging group	III
Transport (Ship -> Sea) EMS No.	-
Transport (Ship -> Sea) MFAG No.	-
Transport (Ship -> Sea) Marine pollutant	N
Transport (Air) IATA-DRG/ICAO-TI	9
Transport (Air) Packaging group	III

15. REGULATORY INFORMATION



Symbols



Xn - Harmful
N - Dangerous for the environment

R- en S-phrases

R38	Irritating to skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
S23A	Do not breathe vapours/spray.
S24	Avoid contact with skin.
S37	Wear suitable gloves.
S57	Use appropriate container to avoid environmental contamination.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.
S62	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

16. OTHER INFORMATION

VOC g/l	792
Versie	0

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This MSDS sheet is created on date	13-12-1994
Last revision on date	03-07-2007
This MSDS sheet was printed on date	06-01-2011
Composed by	R. Doornink

Product code	807
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Explanation to R-phrases in section 3

R22	Harmful if swallowed.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R50	Very toxic to aquatic organisms.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowd.

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties. It is in the users responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

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

· **Product identifier**

· **Trade name:** Twin Air MP Contact Cleaner 500 ml
1066583

· **Article number:** 561000

· **Relevant identified uses of the substance or mixture and uses advised against**

· **Application of the substance / the preparation** Cleaner solvent

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Mobacc/Pharmaspray/Eurofill

9640 AH Veendam

The Netherlands

Tel: +31(0)598 626666

Fax: +31(0)598 625976

E-mail: j.sleumer@mobacc.com

· **Further information obtainable from:** Research & Development/E-mail: j.sleumer@mobacc.com

· **Emergency telephone number:** During normal opening hours: Tel: +31(0)598 626666

2 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Aerosol 1 H222 Extremely flammable aerosol.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

R36/38: Irritating to eyes and skin.



F+; Extremely flammable

R12: Extremely flammable.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Warning! Pressurized container.

Has a narcotizing effect.

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Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Label elements**Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

Code letter and hazard designation of product:

Xi Irritant
F+ Extremely flammable
N Dangerous for the environment

Risk phrases:

12 Extremely flammable.
36/38 Irritating to eyes and skin.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
67 Vapours may cause drowsiness and dizziness.

Safety phrases:

2 Keep out of the reach of children.
16 Keep away from sources of ignition - No smoking.
23 Do not breathe fumes/aerosol.
24/25 Avoid contact with skin and eyes.
46 If swallowed, seek medical advice immediately and show this container or label.
51 Use only in well-ventilated areas.

Special labelling of certain preparations:

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material.

Buildup of explosive mixtures possible without sufficient ventilation.

Classification in accordance with Directive 75/324/EEC: Extremely flammable**Other hazards****Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances**Additional information:**

CAS: 64742-49-0 EC number: 920-750-0 Reg.nr.: 01-2119473851-33	Naphtha (petroleum), hydrotreated light Xn R65; Xi R38; F R11; N R51/53 R67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	25-<50%
CAS: 67-63-0 EINECS: 200-661-7 Reg.nr.: 01-2119457558-25	propan-2-ol Xi R36; F R11 R67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	25-<50%

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CAS: 109-66-0 EINECS: 203-692-4 Reg.nr.: 01-2119459286-30	Pentane Xn R65; F+ R12; N R51/53 R66-67 Flam. Liq. 1, H224; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335	10-<25%
CAS: 124-38-9 EINECS: 204-696-9	carbon dioxide substance with a Community workplace exposure limit Press. Gas, H280	2.5-<10%

- **Chemical characterization: Mixtures**
- **Description:** Active substance with propellant
- **Dangerous components:**

· **Ingredients according to detergents guideline 648/2004/EC**

aliphatic hydrocarbons	≥ 30%
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4 First aid measures

- **Description of first aid measures**
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Water haze
Fire-extinguishing powder
Carbon dioxide
Alcohol resistant foam
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

- **Information about fire - and explosion protection:**

Do not spray onto a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Store in a cool location.
Observe official regulations on storing packagings with pressurized containers.

- **Information about storage in one common storage facility:**

Observe official regulations on storing packagings with pressurized containers.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.
Do not seal receptacle gas tight.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

67-63-0 propan-2-ol

WEL	Short-term value: 1250 mg/m ³ , 500 ppm
	Long-term value: 999 mg/m ³ , 400 ppm

109-66-0 Pentane

WEL	Long-term value: 1800 mg/m ³ , 600 ppm
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124-38-9 carbon dioxide

WEL	Short-term value: 27400 mg/m ³ , 15000 ppm
	Long-term value: 9150 mg/m ³ , 5000 ppm

- **DNELs**

64742-49-0 Naphtha (petroleum), hydrotreated light

Oral	DNEL Long term-systemic	699 mg/kg bw/day (Consumer)
Dermal	DNEL Long term-systemic	699 mg/kg bw/day (Consumer)
		773 mg/kg bw/day (Worker)
Inhalative	DNEL Long term-systemic	608 mg/m ³ (Consumer)
		2035 mg/m ³ (Worker)

67-63-0 propan-2-ol

Oral	DNEL Long term-systemic	26 mg/kg bw/day (Consumer)
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Dermal	DNEL Long term-systemic	319 mg/kg bw/day (Consumer) 888 mg/kg bw/day (Worker)
Inhalative	DNEL Long term-systemic	89 mg/m3 (Consumer) 500 mg/m3 (Worker)
109-66-0 Pentane		
Oral	DNEL Long term-systemic	214 mg/kg bw/day (Consumer)
Dermal	DNEL Long term-systemic	214 mg/kg bw/day (Consumer) 432 mg/kg bw/day (Worker)
Inhalative	DNEL Long term-systemic	643 mg/m3 (Consumer) 3000 mg/m3 (Worker)

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and food.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Use suitable respiratory protective device in case of insufficient ventilation.

Filter AX/P2

· **Protection of hands:**



Protective gloves

Solvent resistant gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves** Nitrile rubber, NBR

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Use protective suit.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Aerosol

Colour: According to product specification

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

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· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	36°C
· Flash point:	< 0°C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	200°C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	0.7 Vol %
Upper:	12.0 Vol %
· Vapour pressure at 20°C:	5.6 Bar
· Density at 20°C:	0.755 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Segregation coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	96.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

64742-49-0 Naphtha (petroleum), hydrotreated light

Oral	LD50	>5000 mg/kg (rat)
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Dermal	LD50	>2800 mg/kg (rabbit)
Inhalative	LC50/4 h	>23 mg/l (rat)
67-63-0 propan-2-ol		
Oral	LD50	5840 mg/kg (rat)
Dermal	LD50	13900 mg/kg (rabbit)
Inhalative	LC50/6h	25000 mg/m3 (rat)

Primary irritant effect:

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritating effect.

- **Sensitization:** No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

Toxicity**Aquatic toxicity:****64742-49-0 Naphtha (petroleum), hydrotreated light**

EC50/48h	3 mg/l (Daphnia magna)
EL50 (72h)	10-30 mg/l (Pseudokirchneriella subcapitata)
LL50 (96h)	>13.4 mg/l (Oncorhynchus mykiss (96h))
LOEC (21 days)	0.32 mg/l (Daphnia magna)
NOEC (21 days)	0.17 mg/l (Daphnia magna)
NOELR (72h)	10 mg/l (Pseudokirchneriella subcapitata)

67-63-0 propan-2-ol

LC50 (24h)	9714 mg/l (Daphnia magna)
LC50/96h	9640 mg/l (Pimephales promelas)
LOEC (8 days)	1000 mg/l (algae)

109-66-0 Pentane

EC50 (72h)	10.7 mg/l (Pseudokirchneriella subcapitata)
EC50/48h	2.7 mg/l (Daphnia magna)
LC50/96h	4.26 mg/l (Oncorhynchus mykiss (96h))
NOEC (72h)	7.51 mg/l (Pseudokirchneriella subcapitata)

- **Persistence and degradability** No further relevant information available.

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:** Toxic for fish

- **Additional ecological information:**

- **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

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- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations






- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue	
20 01 99	other fractions not otherwise specified
07 01 04*	other organic solvents, washing liquids and mother liquors
15 01 04	metallic packaging

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|----------------------------------|--|
| · UN-Number | UN1950 |
| · ADR, IMDG, IATA | |
| · UN proper shipping name | 1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS |
| · ADR | AEROSOLS, MARINE POLLUTANT |
| · IMDG | AEROSOLS, flammable |
| · IATA | |

· Transport hazard class(es)	
· ADR	
	
· Class	2.5F Gases.
· Label	2.1
· IMDG	
	
· Class	2.1
· Label	2.1
· IATA	
	
· Class	2.1
· Label	2.1
· Packing group	
· ADR, IMDG, IATA	Void







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· Environmental hazards:	Product contains environmentally hazardous substances: Naphtha (petroleum), hydrotreated light
· Marine pollutant:	Yes
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Gases.
· Danger code (Kemler):	-
· EMS Number:	F-D,S-U
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Transport category	2
· Tunnel restriction code	D
· UN "Model Regulation":	UN1950, AEROSOLS, ENVIRONMENTALLY HAZARDOUS, 2.1

15 Regulatory information

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

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
NK	50-100

· **VOC-CH** 96.03 %

· **VOC-EU** 725.0 g/l

· **Danish MAL Code** 5-3

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H224 Extremely flammable liquid and vapour.

H225 Highly flammable liquid and vapour.

H280 Contains gas under pressure; may explode if heated.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

R11 Highly flammable.

R12 Extremely flammable.

R36 Irritating to eyes.

R38 Irritating to skin.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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- R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

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· **Department issuing MSDS:** Research & Development

· **Contact:** Ing. J. Sleumer

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

MAL-Code: Måleteknisk Arbejdshygiejnisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark)

DNEL: Derived No-Effect Level (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· * **Data compared to the previous version altered.** *

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.02.2012

Version number 3

Revision: 28.11.2011

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

- **Product identifier**
- **Trade name:** Liquid Power
- **Article number:** PK.10.16
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** SU21 Consumer uses: Private households / general public / consumers
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Process category** PROC1 Use in closed process, no likelihood of exposure
PROC2 Use in closed, continuous process with occasional controlled exposure
- **Application of the substance / the preparation** Auxiliary
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** Putoline Oil
Dollegoorweg 15
NL-7602 EC ALMELO
Tel.: +31 (0)546 818165
- **Further information obtainable from:** Product safety department - vib@putoline.com
- **Emergency telephone number:** +31 (0)546 818165 (9 AM to 4 PM, Monday to Friday)

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R65: Harmful; may cause lung damage if swallowed.



Xi; Irritant

R38: Irritating to skin.



F; Highly flammable

R11: Highly flammable.



N; Dangerous for the environment

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Trade name: **Liquid Power**

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R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
Has a narcotizing effect.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Label elements

Labelling according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

Code letter and hazard designation of product:



Xn Harmful
F Highly flammable
N Dangerous for the environment

Hazard-determining components of labelling:

heptane
methylcyclohexane

Risk phrases:

11 Highly flammable.
38 Irritating to skin.
50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65 Harmful: may cause lung damage if swallowed.
67 Vapours may cause drowsiness and dizziness.

Safety phrases:

2 Keep out of the reach of children.
16 Keep away from sources of ignition - No smoking.
23 Do not breathe fumes/aerosol.
24 Avoid contact with skin.
29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Other hazards

Results of PBT and vPvB assessment

· PBT: Not applicable.
· vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 142-82-5 EINECS: 205-563-8	heptane Xn R65; Xi R38; F R11; N R50/53 R67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; STOT SE 3, H336	25-50%
CAS: 108-87-2 EINECS: 203-624-3	methylcyclohexane Xn R65; Xi R38; F R11; N R51/53 R67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	10-25%
CAS: 110-82-7 EINECS: 203-806-2	cyclohexane Xn R65; Xi R38; F R11; N R50/53 R67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; STOT SE 3, H336	0.1-1.0%

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· Regulation (EC) No 648/2004 on detergents / Labelling for contents	
aliphatic hydrocarbons	≥ 30%
· Additional information:	For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- Description of first aid measures
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: Do not induce vomiting; call for medical help immediately.
- Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed If swallowed or in case of vomiting, danger of entering the lungs.

5 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents: Water haze
Fire-extinguishing powder
Carbon dioxide
Alcohol resistant foam
- For safety reasons unsuitable extinguishing agents: Water with full jet
- Special hazards arising from the substance or mixture Formation of toxic gases is possible during heating or in case of fire.
- Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
- Environmental precautions: Wear protective equipment. Keep unprotected persons away.
Do not allow product to reach sewage system or any water course.
Prevent seepage into sewage system, workpits and cellars.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Remove from the water surface (e.g. skim or suck off).
- Reference to other sections See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- Handling:
- Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.
- Information about fire - and explosion protection: Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- Conditions for safe storage, including any incompatibilities
- Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- Information about storage in one common storage facility: Not required.

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- **Further information about storage conditions:** Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

Ingredients with limit values that require monitoring at the workplace:


142-82-5 heptane

WEL Long-term value: 500 ppm

110-82-7 cyclohexane


WEL Short-term value: 1050 mg/m³, 300 ppm
Long-term value: 350 mg/m³, 100 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Do not inhale gases / fumes / aerosols.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
- **Respiratory protection:** Filter A/P2
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

Solvent resistant gloves
- **Material of gloves** The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material** The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles
- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General information**
- **Appearance:**
 - Form: Liquid
 - Colour: According to product specification
 - Odour: Characteristic
- **Change in condition**
 - Melting point/Melting range: Undetermined.
 - Boiling point/Boiling range: 98°C
- **Flash point:** -4°C
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:** 215°C

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· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.1 Vol %
Upper:	6.7 Vol %
· Vapour pressure at 20°C:	48 hPa
· Density at 20°C:	0.762 g/cm ³
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Segregation coefficient (n-octanol/water):	Not determined.
· Solvent content:	
Organic solvents:	75.7 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Possibility of hazardous reactions** Reacts with strong oxidizing agents.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values relevant for classification:	
108-87-2 methylcyclohexane	
Oral LD50	2250 mg/kg (mus)
110-82-7 cyclohexane	
Oral LD50	12705 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:** The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological information

- **Toxicity**

· Aquatic toxicity:	
142-82-5 heptane	
EC50 (24 h)	>10 mg/l (daphnia)
LC50 (48 h)	4924 mg/l (fish)
108-87-2 methylcyclohexane	
LC50 (48 h)	5 mg/l (fish)

- **Persistence and degradability** No further relevant information available.
- **Other information:** The product is difficultly biodegradable.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish

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· **Additional ecological information:**

- **General notes:** Also poisonous for fish and plankton in water bodies.
 Very toxic for aquatic organisms
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
 · **vPvB:** Not applicable.
 · **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation** Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	UN1206
· UN proper shipping name	
· ADR	1206 HEPTANES, mixture, ENVIRONMENTALLY HAZARDOUS
· IMDG	HEPTANES, mixture, MARINE POLLUTANT
· IATA	HEPTANES, mixture
· Transport hazard class(es)	
· ADR	
· Class	3 Flammable liquids.
· Label	3
· IMDG	
· Class	3 Flammable liquids.
· Label	3
· IATA	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: heptane
· Marine pollutant:	Yes
· Special marking (ADR):	Symbol (fish and tree)
	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33

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· EMS Number:	F-E,S-E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1206, HEPTANES, mixture, ENVIRONMENTALLY HAZARDOUS, 3, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations:
- Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases
 - 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.
 - R11 Highly flammable.
 - R38 Irritating to skin.
 - R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R65 Harmful: may cause lung damage if swallowed.
 - R67 Vapours may cause drowsiness and dizziness.
- Department issuing MSDS: Product safety department.
- Contact: Product safety department
- Abbreviations and acronyms:
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - ICAO: International Civil Aviation Organization
 - GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
- Sources
 - 67/548/EEC - Dangerous Substances Directive
 - 99/45/EEC - Dangerous Preparations Directive