



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

- **1.1 Product identifier**
- **Trade name:** *DINITROL MS-40 Spray*
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
*No further relevant information available.*
- **Application of the substance / the preparation**  
*Lubricant  
Penetrating oil*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*DINOL GmbH  
Pyrmonter Str. 76  
D-32676 Lügde  
Tel: +49 5281 9829 80  
Fax: +49 5281 9829 860  
E-mail: msds@dinol.com*
- **Further information obtainable from:** *Research & Development*
- **1.4 Emergency telephone number:** *Giftnotruf Berlin +49(0)30 30686 790 Beratung in Deutsch und Englisch.*

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
-  *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.*  
*R66-67: Repeated exposure may cause skin dryness or cracking. 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.*  
*At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.*  
*Warning! Pressurized container.*  
*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.*
- **2.2 Label elements**
- **Labelling according to EU guidelines:**  
*The product has been marked in accordance with EU Directives / respective national laws.*  
*The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.*  
*The R and S phrases may be omitted if packaging contains no more than 0.125 litre.*
- **Code letter and hazard designation of product:**  
*F+ Extremely flammable*  
*N Dangerous for the environment*
- **Risk phrases:**  
*12 Extremely flammable.*

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51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

66 Repeated exposure may cause skin dryness or cracking.

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 vapour/spray.

29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

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**

**• 2.3 Other hazards**

**• Results of PBT and vPvB assessment**

**• PBT:** Not applicable.

**• vPvB:** Not applicable.

**SECTION 3: Composition/information on ingredients**

**• 3.2 Chemical characterization: Mixtures**

**• Description:** Mixture of substances listed below with additions.

**• Dangerous components:**

CAS: 64742-48-9 EINECS: 265-150-3	Naphtha (petroleum), hydrotreated heavy ☒ Xn R65 R10-66-67 ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ STOT SE 3, H336	50-<100%
CAS: 64742-65-0 EINECS: 265-169-7	Distillates (petroleum), solvent-dewaxed heavy paraffinic substance with a Community workplace exposure limit	10-<25%
CAS: 74-98-6 EINECS: 200-827-9	Propane liquefied ☒ F+ R12 ⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280	10-<25%
CAS: 106-97-8 EINECS: 203-448-7	Butane, pure ☒ F+ R12 ⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280	10-<25%
CAS: 110-25-8 EINECS: 203-749-3	Oleoylsarcosine ☒ Xi R38-41; ☒ N R50/53 ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315	1-<5%
CAS: 95-38-5 EINECS: 204-414-9	2-(2-Heptadec-8-enyl-2-imidazolin-1-yl)ethanol ☒ C R34; ☒ Xn R22; ☒ N R50/53 ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	<1%

**• Additional information:** For the wording of the listed risk phrases refer to section 16.

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#### **SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
- **After skin contact:** If skin irritation continues, consult a doctor.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
If swallowed or in case of vomiting, danger of entering the lungs.

#### **SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:**  
Water  
Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
Carbon monoxide (CO)  
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.
- **Additional information** Cool endangered receptacles with water spray.

#### **SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Keep away from ignition sources.  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents  
Absorb liquid components with liquid-binding material.
- **6.4 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.

#### **SECTION 7: Handling and storage**

- **7.1 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.

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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.

· **7.2 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: Not required.**

· **Further information about storage conditions:**

Keep container tightly sealed.

Do not seal receptacle gas tight.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

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

**SECTION 8: Exposure controls/personal protection**

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

· **8.1 Control parameters**

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

**64742-65-0 Distillates (petroleum), solvent-dewaxed heavy paraffinic**

OEL	Short-term value: 10 mg/m <sup>3</sup>
	Long-term value: 5 mg/m <sup>3</sup>
	Mineral Oil Mist

**106-97-8 Butane, pure**

WEL	Short-term value: 1810 mg/m <sup>3</sup> , 750 ppm
	Long-term value: 1450 mg/m <sup>3</sup> , 600 ppm
	Carc (if more than 0.1% of buta-1.3-diene)

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

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

· **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.

· **Protection of hands:**



Protective gloves

· **Material of gloves**

Neoprene gloves (0,47 mm)

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.

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- **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.
- **Not suitable are gloves made of the following materials:**  
Natural rubber  
Strong material gloves
- **Eye protection:**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

### · 9.1 Information on basic physical and chemical properties

#### · General Information

##### · Appearance:

· <b>Form:</b>	Aerosol
· <b>Colour:</b>	Light yellow
· <b>Odour:</b>	Petrol-like
· <b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

#### · Change in condition

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	Not applicable, as aerosol.

· **Flash point:** < -10 °C (DIN 53213)

· **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:

· <b>Lower:</b>	0.6 Vol %
· <b>Upper:</b>	10.9 Vol %

· **Vapour pressure At 20 °C:** 4000 hPa

· **Density At 20 °C:** 0.74 g/cm<sup>3</sup> (DIN 51757)

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

#### · Viscosity:

· **Dynamic:** Not determined.

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<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	81.0 %
<b>Solids content:</b>	2.1 % (DIN 53216)
<b>9.2 Other information</b>	No further relevant information available.
· <b>VOC (EU):</b>	76.00 %
· <b>VOC (EU):</b>	555.0 g/l
· <b>VOCV:</b>	76.00 %

### SECTION 10: Stability and reactivity

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

### SECTION 11: Toxicological information

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

· <b>LD/LC50 values relevant for classification:</b>		
<b>64742-48-9 Naphtha (petroleum), hydrotreated heavy</b>		
Oral	LD50	>5000 mg/kg (RAT)
Dermal	LD50	>3000 mg/kg (RAT)
<b>106-97-8 Butane, pure</b>		
Inhalative	LC50/4 h	658 mg/l (rat)
<b>110-25-8 Oleoilsarcosine</b>		
Oral	LD50	2000 mg/kg (rat)
	LC50/96 h	1.37 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** The product degrades the skin.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:** There is no data available for the product.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish

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- **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
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

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

- **European waste catalogue**

16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 05 00	gases in pressure containers and discarded chemicals
16 05 04*	gases in pressure containers (including halons) containing dangerous substances
20 00 00	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01 00	separately collected fractions (except 15 01)
20 01 26*	oil and fat other than those mentioned in 20 01 25
15 00 00	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01 00	packaging (including separately collected municipal packaging waste)
15 01 10*	packaging containing residues of or contaminated by dangerous substances

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

### SECTION 14: Transport information

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN1950
- **14.2 UN proper shipping name**
- **ADR** 1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS
- **IMDG** AEROSOLS (Oleoylsarcosine, 2-(2-Heptadec-8-enyl-2-imidazolin-1-yl)ethanol), MARINE POLLUTANT
- **IATA** AEROSOLS, flammable

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**· 14.3 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

**· 14.4 Packing group**

**· ADR, IMDG, IATA** Void

**· 14.5 Environmental hazards:** Product contains environmentally hazardous substances: Oleoylsarcosine

**· Marine pollutant:** Yes  
Symbol (fish and tree)

**· Special marking (ADR):** Symbol (fish and tree)

**· 14.6 Special precautions for user** Warning: Gases.

**· Danger code (Kemler):** -

**· EMS Number:** F-D,S-U

**· 14.7 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



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## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to EU guidelines:**  
The product has been marked in accordance with EU Directives / respective national laws.  
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.  
The R and S phrases may be omitted if packaging contains no more than 0.125 litre.
- **Code letter and hazard designation of product:**  
F+ Extremely flammable  
N Dangerous for the environment
- **Risk phrases:**  
12 Extremely flammable.  
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
66 Repeated exposure may cause skin dryness or cracking.  
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 vapour/spray.  
29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.  
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**
- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
NK	81.0
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 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**  
H220 Extremely flammable gas.  
H226 Flammable liquid and vapour.  
H280 Contains gas under pressure; may explode if heated.  
H302 Harmful if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H314 Causes severe skin burns and eye damage.

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- H315 Causes skin irritation.*  
*H318 Causes serious eye damage.*  
*H336 May cause drowsiness or dizziness.*  
*H400 Very toxic to aquatic life.*  
*H410 Very toxic to aquatic life with long lasting effects.*
- R10 Flammable.*  
*R12 Extremely flammable.*  
*R22 Harmful if swallowed.*  
*R34 Causes burns.*  
*R38 Irritating to skin.*  
*R41 Risk of serious damage to eyes.*  
*R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*  
*R65 Harmful: may cause lung damage if swallowed.*  
*R66 Repeated exposure may cause skin dryness or cracking.*  
*R67 Vapours may cause drowsiness and dizziness.*

- **Department issuing MSDS:** Research & Development
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- **\* Data compared to the previous version altered.**