

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

- **1.1 Product identifier**
- **Trade name: Dinitrol 77B 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** Anticorrosion additive
- **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.  
**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
- **Risk phrases:**  
12 Extremely flammable.  
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.  
3 Keep in a cool place.  
16 Keep away from sources of ignition - No smoking.  
23 Do not breathe vapour/spray.  
51 Use only in well-ventilated areas.

**Trade name: Dinitrol 77B Spray**

(Contd. of page 1)

60 This material and its container must be disposed of as hazardous waste.

**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**

The petroleum naphtha / petroleum distillate / lubricating oil meet the requirements for not being classified as carcinogenic (<0,1% benzene alt<3% (w/w) DMSO extract (IP 346)).

• **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	25-<50%
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: 25307-17-9 EINECS: 246-807-3	Bis(2-hydroxyethyl) oleylamine ⚠ C R34; ☒ Xn R22; ⚠ N R50 ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302	<1%

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

**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**

No further relevant information available.

**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** No further relevant information available.

(Contd. on page 3)

**Trade name: Dinitrol 77B Spray**

(Contd. of page 2)

- **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**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** 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:**  
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.
- **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:**

**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)
-----	---

· **DNELs**

**64742-48-9 Naphtha (petroleum), hydrotreated heavy**

Oral	Acute - systemic effects, general population	125 mg/kg bw/day (General Population)
------	--	---------------------------------------

(Contd. on page 4)

**Trade name: Dinitrol 77B Spray**

(Contd. of page 3)

Dermal	Acute - systemic effects, general population	125 mg/kg (General population)
	Long-term - systemic effects, worker	208 mg/kg bw/day (Worker)
Inhalative	Acute - systemic effects, general population	900 mg/m <sup>3</sup> (General Population)
	Long-term - systemic effects, worker	871 mg/m <sup>3</sup> (Worker)

**25307-17-9 Bis(2-hydroxyethyl) oleylamine**

Oral	Long-term - systemic effects, general population	0.179 mg/kg bw/day (General Population)
Dermal	Long-term - systemic effects, general population	0.179 mg/kg bw/day (General population)
	Long-term - systemic effects, worker	0.25 mg/kg bw/day (Worker)
Inhalative	Long-term - systemic effects, general population	0.621 mg/m <sup>3</sup> (General Population)
	Long-term - systemic effects, worker	1.76 mg/m <sup>3</sup> (Worker)

· **PNECs**

**25307-17-9 Bis(2-hydroxyethyl) oleylamine**

Aquatic compartment - freshwater	0.000214 mg/L (not specified)
Aquatic compartment - marine water	0.000021 mg/L (not specified)
Aquatic compartment - sediment in freshwater	0.171 mg/kg sed dw (not specified)
Aquatic compartment - sediment in marine water	0.0171 mg/kg sed dw (not specified)
Sewage treatment plant	1.5 mg/L (not specified)
Terrestrial compartment - soil	5 mg/kg dw (not specified)

· **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.

Use suitable respiratory protective device in case of insufficient ventilation.

· **Protection of hands:**



Protective 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.

Nitrile rubber

· **Penetration time of glove material**

> 480 min.

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

**Trade name: Dinitrol 77B Spray**

(Contd. of page 4)

### SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

**Form:** Aerosol

**Colour:** Brown

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** -44 °C

· **Flash point:** < -20 °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:**

**Lower:** 0.6 Vol %

**Upper:** 10.9 Vol %

· **Vapour pressure At 20 °C:** 8300 hPa

· **Density At 20 °C:** 0.736 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.

**Kinematic:** Not determined.

· **Solvent content:**

**Organic solvents:** 65.8 %

**Solids content:** 33.6 % (DIN 53216)

· **9.2 Other information** No further relevant information available.

· **VOC (EU):** 65.83 %

· **VOC (EU):** 484.5 g/l

· **VOCV:** 65.83 %

### 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.

(Contd. on page 6)

**Trade name: Dinitrol 77B Spray**

(Contd. of page 5)

- **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:**

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

**64742-48-9 Naphtha (petroleum), hydrotreated heavy**

Oral	LD50	>5000 mg/kg (RAT)
Dermal	LD50	>3000 mg/kg (RAT)

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

Inhalative	LC50/4 h	658 mg/l (rat)
------------	----------	----------------

**25307-17-9 Bis(2-hydroxyethyl) oleylamine**

Oral	LD50	>300-2000 mg/kg (RAT)
	LC50/96 h	>0.1-1 mg/l (Fish)

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

### SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

**25307-17-9 Bis(2-hydroxyethyl) oleylamine**

EC50/48 h	>0.1-1 mg/l (DAPHNIA MAGNA)
EC50/72 h	>0.01-0.1 mg/l (SELENASTRUM CAPRICORNUTUM)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.

- **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

(Contd. on page 7)

**Trade name: Dinitrol 77B Spray**

(Contd. of page 6)

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

**SECTION 14: Transport information**

· <b>14.1 UN-Number</b> · <b>ADR, IMDG, IATA</b>	UN1950
· <b>14.2 UN proper shipping name</b> · <b>ADR</b> · <b>IMDG</b> · <b>IATA</b>	1950 AEROSOLS AEROSOLS AEROSOLS, flammable
· <b>14.3 Transport hazard class(es)</b> · <b>ADR</b>	
· <b>Class</b> · <b>Label</b>	2 5F Gases. 2.1
· <b>IMDG, IATA</b>	
· <b>Class</b> · <b>Label</b>	2.1 2.1
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	Void
· <b>14.5 Environmental hazards:</b> · <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b>	Warning: Gases. - F-D,S-U
· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	For ADR and IMDG: Transport and packing are in accordance with the regulation for limited quantities. These products are therefore classified as no dangerous goods.
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Transport category</b> · <b>Tunnel restriction code</b>	IL 2 D

Trade name: Dinitrol 77B Spray

(Contd. of page 7)

**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
- **Risk phrases:**  
12 Extremely flammable.  
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.  
3 Keep in a cool place.  
16 Keep away from sources of ignition - No smoking.  
23 Do not breathe vapour/spray.  
51 Use only in well-ventilated areas.  
60 This material and its container must be disposed of as hazardous waste.
- **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	65.8
- **Waterhazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.
- **Other regulations, limitations and prohibitive regulations**
- **Please note:** 5-6
- **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.  
H336 May cause drowsiness or dizziness.  
H400 Very toxic to aquatic life.
- R10 Flammable.
- R12 Extremely flammable.

(Contd. on page 9)

Printing date 21.05.2013

Version number 18

Revision: 16.05.2013

**Trade name: Dinitrol 77B Spray**

(Contd. of page 8)

- R22 Harmful if swallowed.
- R34 Causes burns.
- R50 Very toxic to aquatic organisms.
- 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
- **Contact:** Kontakt: [msds@dinol.com](mailto:msds@dinol.com) oder Tel.: 0049 (0)5281 982 980
- **\* Data compared to the previous version altered.**

GB