

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 13.12.2019

Version number 22

Revision: 30.10.2019

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 mixture** 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 700 Beratung in Deutsch und Englisch.

SECTION 2: Hazards identification

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



Aerosol 1 H222-H229 *Extremely flammable aerosol. Pressurised container: May burst if heated.*



STOT SE 3 H336 *May cause drowsiness or dizziness.*
 Asp. Tox. 1 H304 *May be fatal if swallowed and enters airways.*
 Aquatic Chronic 3 H412 *Harmful to aquatic life with long lasting effects.*

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
Naphtha (petroleum), hydrotreated heavy
Distillates (petroleum), solvent-refined light paraffinic
Distillates (petroleum), solvent-dewaxed light paraffinic
- **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
H336 May cause drowsiness or dizziness.

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H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P251 Do not pierce or burn, even after use.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

Buildup of explosive mixtures possible without sufficient ventilation.

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 characterisation: Mixtures

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

Dangerous components:

CAS: 64742-48-9 EC number: 919-857-5 Reg.nr.: 01-2119463258-33	Naphtha (petroleum), hydrotreated heavy ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ STOT SE 3, H336	25-<50%
CAS: 74-98-6 EINECS: 200-827-9 Reg.nr.: 01-2119486944-21	Propane liquefied ⚠ Flam. Gas 1, H220; Press. Gas C, H280	10-<25%
CAS: 106-97-8 EINECS: 203-448-7 Reg.nr.: 01-2119474691-32	Butane, pure ⚠ Flam. Gas 1, H220; ⚠ Acute Tox. 3, H331; Press. Gas C, H280	10-<25%
CAS: 25307-17-9 EINECS: 246-807-3 Reg.nr.: 01-2119510876-35	Bis(2-hydroxyethyl) oleylamine ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	<1%

 · **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

 · **After inhalation:** Supply fresh air or oxygen; call for doctor.

 · **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.

 · **After swallowing:** Do not induce vomiting; call for medical help immediately.

 · **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **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:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.
- **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.
Avoid contact with skin, eyes and clothes.
- **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:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
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.
Use only in well ventilated areas.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Pressurised 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:**
Observe official regulations on storing packagings with pressurised containers.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

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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:**

CAS: 106-97-8 Butane, pure

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

· **Regulatory information WEL:** EH40/2018

· **DNELs**

CAS: 64742-48-9 Naphtha (petroleum), hydrotreated heavy

Oral	Long-term - systemic effects, general population	125 mg/kg bw/day (General Population)
Dermal	Long-term - systemic effects, worker	208 mg/kg bw/day (Worker)
	Long-term - systemic effects, general population	125 mg/kg bw/day (General population)
Inhalative	Long-term - systemic effects, worker	871 mg/m ³ (Worker)
	Long-term - systemic effects, general population	185 mg/m ³ (General Population)

CAS: 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, worker	0.25 mg/kg bw/day (Worker)
	Long-term - systemic effects, general population	0.179 mg/kg bw/day (General population)
Inhalative	Long-term - systemic effects, worker	1.76 mg/m ³ (Worker)
	Long-term - systemic effects, general population	0.621 mg/m ³ (General Population)

· **PNECs**

CAS: 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	1,692 mg/kg sed dw (not specified)
Aquatic compartment - sediment in marine water	0.1692 mg/kg sed dw (not specified)
Terrestrial compartment - soil	5 mg/kg dw (not specified)
Sewage treatment plant	1.5 mg/L (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:**

Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.

· **Respiratory protection:**

Short term filter device:



Filter AX

· **Protection of hands:**

Not required.

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

· **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

Recommended thickness of the material: $\geq 0,12$ mm

· **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:** Not required.

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/freezing point: Undetermined.

Initial boiling point and boiling range: -44 °C

· **Flash point:** <-20 °C (DIN 53213)

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** >200 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** 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:** 8,300 hPa

· **Density At 20 °C:** 0.736 g/cm³ (DIN 51757)

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not applicable.

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· 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:	64.1 %
Water:	0.0 %
Solids content:	35.9 % (DIN 53216)
· 9.2 Other information	No further relevant information available.
· VOC (EU):	64.10 %
· VOC (EU):	471.8 g/l
· VOCV:	64.10 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **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** Based on available data, the classification criteria are not met.

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

CAS: 64742-48-9 Naphtha (petroleum), hydrotreated heavy

Oral	LD50	>5,000 mg/kg (RAT)
Dermal	LD50	>5,000 mg/kg (RABBIT)
Inhalative	LC50/4 h	5,000 mg/l (RAT)

CAS: 106-97-8 Butane, pure

Inhalative	LC50/4 h	658 mg/l (rat)
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CAS: 25307-17-9 Bis(2-hydroxyethyl) oleylamine

Oral	LD50	>300-2,000 mg/kg (RAT)
	LC50/96 h	>0.1-1 mg/l (Fish)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:** No further relevant information available.
- **Ingestion:** Risk of chemical pneumonia if the product reaches the lungs at vomiting or similar.

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- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

CAS: 25307-17-9 Bis(2-hydroxyethyl) oleylamine

EC50/48 h >0.01-1 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.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **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.
Harmful to 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.
Dispose of as dangerous waste.

· **European waste catalogue**

16 05 04* gases in pressure containers (including halons) containing hazardous substances

HP3 Flammable

HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

HP14 Ecotoxic

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

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SECTION 14: Transport information

· 14.1 UN-Number · ADR/RID/ADN, IMDG, IATA	<i>UN1950</i>
· 14.2 UN proper shipping name · ADR/RID/ADN · IMDG · IATA	<i>1950 AEROSOLS AEROSOLS AEROSOLS, flammable</i>
· 14.3 Transport hazard class(es) · ADR/RID/ADN	
	
· Class · Label	<i>2 5F Gases. 2.1</i>
· IMDG, IATA	
	
· Class · Label	<i>2.1 2.1</i>
· 14.4 Packing group · ADR/RID/ADN, IMDG, IATA	<i>Void</i>
· 14.5 Environmental hazards: · Marine pollutant:	<i>No</i>
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups · Stowage Code	<i>Warning: Gases. - F-D,S-U Alkalis SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.</i>
· Segregation Code	<i>SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.</i>
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	<i>Not applicable.</i>

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· Transport/Additional information:

- **ADR/RID/ADN**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity
- **Transport category** 2
- **Tunnel restriction code** D

- **IMDG**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity

- **UN "Model Regulation":** UN 1950 AEROSOLS, 2.1

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
Naphtha (petroleum), hydrotreated heavy
Distillates (petroleum), solvent-refined light paraffinic
Distillates (petroleum), solvent-dewaxed light paraffinic
- **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251 Do not pierce or burn, even after use.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** *None of the ingredients is listed.*
- **Seveso category** *P3a FLAMMABLE AEROSOLS*
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** *150 t*
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** *500 t*
- **REGULATION (EC) No 1907/2006 ANNEX XVII** *Conditions of restriction: 3*

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- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
NK	64.1

- **Waterhazard class:** Water hazard class 3 (Self-assessment): extremely 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.
- H318 Causes serious eye damage.
- H331 Toxic if inhaled.
- H336 May cause drowsiness or dizziness.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

- **Department issuing SDS:** Research & Development
- **Contact:** Kontakt: msds@dinol.com oder Tel.: 0049 (0)5281 982 980
- **Abbreviations and acronyms:**

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - ICAO: International Civil Aviation Organisation
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - DNEL: Derived No-Effect Level (REACH)
 - PNEC: Predicted No-Effect Concentration (REACH)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Gas 1: Flammable gases – Category 1
 - Aerosol 1: Aerosols – Category 1
 - Press. Gas C: Gases under pressure – Compressed gas
 - Flam. Liq. 3: Flammable liquids – Category 3
 - Acute Tox. 4: Acute toxicity - oral – Category 4
 - Acute Tox. 3: Acute toxicity - inhalation – Category 3
 - Skin Corr. 1B: Skin corrosion/irritation – Category 1B
 - Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 - Asp. Tox. 1: Aspiration hazard – Category 1
 - Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 - Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
 - Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
- *** Data compared to the previous version altered.**