



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

- **1.1 Product identifier**
- **Trade name: DINITROL 4010 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 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**
 -  Xi; Sensitising
R43: May cause sensitisation by skin contact.
 -  F+; Extremely flammable
R12: Extremely flammable.
 - R52/53-66-67: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 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:**
Xi Irritant
F+ Extremely flammable
- **Hazard-determining components of labelling:**
Calcium Sulfonate
- **Risk phrases:**
12 Extremely flammable.
43 May cause sensitisation by skin contact.

Trade name: DINITROL 4010 SPRAY

(Contd. of page 1)

- 52/53 Harmful 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.
- 24 Avoid contact with skin.
- 37 Wear suitable gloves.
- 51 Use only in well-ventilated areas.
- 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

• 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: 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: 64742-48-9 EC number: 919-857-5 Reg.nr.: 01-2119463258-33	Naphtha (petroleum), hydrotreated heavy Xn R65 R10-66-67 ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ STOT SE 3, H336	10-<25%
CAS: 64742-82-1 EINECS: 265-185-4	Naphtha (petroleum), hydrodesulfurized heavy Xn R65; N R51/53 R10-66-67 ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H336	10-<25%
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	5-<10%

(Contd. on page 3)

Trade name: DINITROL 4010 SPRAY

(Contd. of page 2)		
CAS: 61789-86-4	Calcium Sulfonate  Xi R43  Skin Sens. 1, H317	1-<5%
CAS: 64742-49-0 EC number: 927-510-4 Reg.nr.: 01-2119475515-33	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	1-<5%

· **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 inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

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:** CO₂, 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.

· **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.

· **6.2 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.

· **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.

Trade name: DINITROL 4010 SPRAY

(Contd. of page 3)

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 Use only in well ventilated areas.
- **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 ³ , 750 ppm Long-term value: 1450 mg/m ³ , 600 ppm Carc (if more than 0.1% of buta-1.3-diene)
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· **DNELs**

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

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

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

Oral	Long-term - systemic effects, general population	149 mg/kg bw/day (General Population)
Dermal	Long-term - systemic effects, general population	149 mg/kg bw/day (General population)
	Long-term - systemic effects, worker	300 mg/kg bw/day (Worker)
Inhalative	Long-term - systemic effects, general population	477 mg/m ³ (General Population)
	Long-term - systemic effects, worker	2085 mg/m ³ (Worker)

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

- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Immediately remove all soiled and contaminated clothing

(Contd. on page 5)

Trade name: DINITROL 4010 SPRAY

(Contd. of page 4)

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.

Fluorocarbon rubber (Viton)

Nitrile rubber

Recommended thickness of the material: ≥ 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:



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Aerosol
Colour:	Light 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 %

(Contd. on page 6)

Trade name: DINITROL 4010 SPRAY

(Contd. of page 5)

Upper:	10.9 Vol %
· Vapour pressure At 20 °C:	4500 hPa
· Density At 20 °C:	0.736 g/cm ³ (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:	70.0 %
Solids content:	30.0 % (DIN 53216)
· 9.2 Other information	No further relevant information available.
· VOC (EU):	69.96 %
· VOC (EU):	514.9 g/l
· VOCV:	69.96 %

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:**

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

ATE (Acute Toxicity Estimates)

Oral	LD50	13.551 mg/kg
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106-97-8 Butane, pure

Inhalative	LC50/4 h	658 mg/l (rat)
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64742-48-9 Naphtha (petroleum), hydrotreated heavy

Oral	LD50	>5000 mg/kg (RAT)
Dermal	LD50	>5000 mg/kg (RABBIT)
Inhalative	LC50/4 h	> 4951 mg/l (RAT)

64742-82-1 Naphtha (petroleum), hydrodesulfurized heavy

Oral	LD50	>6500 mg/kg (RAT)
Dermal	LD50	>3000 mg/kg (RABBIT)

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

Oral	LD50	>5000 mg/kg (RAT)
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(Contd. on page 7)

Trade name: DINITROL 4010 SPRAY

(Contd. of page 6)

Dermal	LD50	>3000 mg/kg (RAT)
64742-49-0 Naphtha (petroleum), hydrotreated light		
Oral	LD50	>5840 mg/kg (RAT)
Dermal	LD50	>2920 mg/kg (RAT)
Inhalative	LC50/4 h	> 23.3 mg/l (RAT)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** Sensitization possible through skin contact.

· **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

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

64742-49-0 Naphtha (petroleum), hydrotreated light		
EL50/48 h	3 mg/l	(DAPHNIA MAGNA)
EL50/72 h	10-30 mg/l	(SELENASTRUM CAPRICORNUTUM)
LL50/96 h	> 13.4 mg/l	(SALMO GAIRDNERI / ONCORHYNCHUS MYKISS)

· **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 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.

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.

· **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



· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

Trade name: **DINITROL 4010 SPRAY**

(Contd. of page 7)

SECTION 14: Transport information

<ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA 	<p>UN1950</p>	
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA 	<p>1950 AEROSOLS AEROSOLS AEROSOLS, flammable</p>	
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR 	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label 	<p>2 5F Gases. 2.1</p>
<ul style="list-style-type: none"> · IMDG, IATA 	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label 	<p>2.1 2.1</p>
<ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA 	<p>Void</p>	
<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: 	<p>No</p>	
<ul style="list-style-type: none"> · 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: 	<p>Warning: Gases. - F-D,S-U</p>	
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p>Not applicable.</p>	
<ul style="list-style-type: none"> · Transport/Additional information: 	<p>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.</p>	
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code 	<p>1L Code: E0 Not permitted as Excepted Quantity 2 D</p>	
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>1L Code: E0 Not permitted as Excepted Quantity</p>	

Trade name: DINITROL 4010 SPRAY

(Contd. of page 8)

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:**
*Xi Irritant
 F+ Extremely flammable*
 - **Hazard-determining components of labelling:**
Calcium Sulfonate
 - **Risk phrases:**
*12 Extremely flammable.
 43 May cause sensitisation by skin contact.
 52/53 Harmful 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.
 24 Avoid contact with skin.
 37 Wear suitable gloves.
 51 Use only in well-ventilated areas.
 61 Avoid release to the environment. Refer to special instructions/safety data sheets.*
 - **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 | 70.0 |
- **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.
 H225 Highly flammable liquid and vapour.
 H226 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.
 H317 May cause an allergic skin reaction.*

(Contd. on page 10)

Trade name: DINITROL 4010 SPRAY

(Contd. of page 9)

- H336 May cause drowsiness or dizziness.*
- H411 Toxic to aquatic life with long lasting effects.*
- R10 Flammable.*
- R11 Highly flammable.*
- R12 Extremely flammable.*
- R38 Irritating to skin.*
- R43 May cause sensitisation by skin contact.*
- R51/53 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
- **Contact:** Kontakt: msds@dinol.com oder Tel.: 0049 (0)5281 982 980
- *** Data compared to the previous version altered.**