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

Printing date 06.06.2013 Version number 23 Revision: 05.03.2013

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

· **1.1 Product identifier**

· **Trade name: DINITROL 482 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.

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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.

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:**
F+ Extremely flammable

· **Risk phrases:**
12 Extremely flammable.
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.
3 Keep in a cool place.
16 Keep away from sources of ignition - No smoking.

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23 Do not breathe vapour/spray.
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: 64742-49-0 EC number: 920-750-0	Naphtha (petroleum), hydrotreated light Xn R65; F R11; N R51/53 R66-67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	10-<25%
CAS: 78-93-3 EINECS: 201-159-0	Methyl ethyl ketone Xi R36; F R11 R66-67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	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: 64742-49-0 EC number: 927-241-2	Naphtha (petroleum), hydrotreated light Xn R65 R10-52/53-66-67 Flam. Liq. 3, H226; Asp. Tox. 1, H304; STOT SE 3, H336; Aquatic Chronic 3, H412	1-<5%
CAS: 64742-49-0 EC number: 921-024-6	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%
CAS: 64742-95-6 EINECS: 265-199-0	Solvent naphtha (petroleum), light arom. Xn R65; Xi R37; N R51/53 R10-66-67 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335-H336	1-<5%
CAS: 67-56-1 EINECS: 200-659-6	Methanol T R23/24/25-39/23/24/25; F R11 Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370	<1%

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· **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.
· **After swallowing:** If symptoms persist consult 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:** 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:**
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.
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.

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· **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.

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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:**	
78-93-3 Methyl ethyl ketone	
WEL	Short-term value: 899 mg/m³, 300 ppm Long-term value: 600 mg/m³, 200 ppm Sk, BMGV
106-97-8 Butane, pure	
WEL	Short-term value: 1810 mg/m³, 750 ppm Long-term value: 1450 mg/m³, 600 ppm Carc (if more than 0.1% of buta-1.3-diene)
67-56-1 Methanol	
WEL	Short-term value: 333 mg/m³, 250 ppm Long-term value: 266 mg/m³, 200 ppm Sk

· **DNELs**		
64742-49-0 Naphtha (petroleum), hydrotreated light		
Oral	Long-term - systemic effects, general population	699 mg/kg bw/day (General Population)
Dermal	Long-term - systemic effects, general population	699 mg/kg bw/day (General population)
	Long-term - systemic effects, worker	773 mg/kg bw/day (Worker)
Inhalative	Long-term - systemic effects, general population	608 mg/m3 (General Population)
	Long-term - systemic effects, worker	2035 mg/m3 (Worker)
64742-49-0 Naphtha (petroleum), hydrotreated light		
Oral	Long-term - systemic effects, general population	300 mg/kg bw/day (General Population)
Dermal	Long-term - systemic effects, general population	300 mg/kg bw/day (General population)
	Long-term - systemic effects, worker	300 mg/kg bw/day (Worker)
Inhalative	Long-term - systemic effects, general population	900 mg/m3 (General Population)
	Long-term - systemic effects, worker	1500 mg/m3 (Worker)
64742-49-0 Naphtha (petroleum), hydrotreated light		
Oral	Long-term - systemic effects, general population	699 mg/kg bw/day (General Population)
Dermal	Long-term - systemic effects, general population	699 mg/kg bw/day (General population)
	Long-term - systemic effects, worker	773 mg/kg bw/day (Worker)
Inhalative	Long-term - systemic effects, general population	608 mg/m3 (General Population)
	Long-term - systemic effects, worker	2035 mg/m3 (Worker)

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64742-95-6 Solvent naphtha (petroleum), light arom.		
Oral	*Long-term - systemic effects, general population*	*11 mg/kg bw/day (General Population)*
Dermal	*Long-term - systemic effects, general population*	*11 mg/kg bw/day (General population)*
	Long-term - systemic effects, worker	*25 mg/kg bw/day (Worker)*
Inhalative	*Long-term - systemic effects, worker*	*150 mg/m3 (Worker)*

· ***Ingredients with biological limit values:***	
78-93-3 Methyl ethyl ketone	
BMGV	*70 µmol/L* *Medium: urine* *Sampling time: post shift* *Parameter: butan-2-one*

· ***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.
Fluorocarbon rubber (Viton)
Nitrile rubber
· ***Penetration time of glove material***
> 480 min.
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

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SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***
· ***General Information***
· ***Appearance:***

Form:	*Aerosol*
Colour:	*Black*
· ***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:	-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:	11.5 Vol %
· **Vapour pressure At 20 °C:**	8300 hPa
· **Density At 20 °C:**	0.812 g/cm³ (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:	65.1 %
Water:	0.1 %
Solids content:	34.8 % (DIN 53216)
· **9.2 Other information**	No further relevant information available.
· **VOC (EU):**	65.14 %
· **VOC (EU):**	528.9 g/l
· **VOCV:**	65.14 %

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

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SECTION 11: Toxicological information

· **11.1 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)
Dermal	LD50	>2800 mg/kg (RABBIT)
Inhalative	LC 50	23.3 mg/l (RAT)
78-93-3 Methyl ethyl ketone		
Oral	LD50	3300 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rbt)
106-97-8 Butane, pure		
Inhalative	LC50/4 h	658 mg/l (rat)
64742-49-0 Naphtha (petroleum), hydrotreated light		
Oral	LD50	>5840 mg/kg (RAT)
Dermal	LD50	>2920 mg/kg (RABBIT)
Inhalative	LC50/4 h	>25.2 mg/l (RAT)
64742-95-6 Solvent naphtha (petroleum), light arom.		
Oral	LD50	>2000 - ≤5000 mg/kg (RAT)
Dermal	LD50	>2000 mg/kg (RABBIT)
67-56-1 Methanol		
Oral	LD50	13000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Prolonged or repeated contact with skin may cause slight irritation and/or reddening.
· **on the eye:** Irritation to eyes possible after a long exposure time.
· **Sensitization:** Sensitizing effect by skin contact is possible by prolonged exposure.

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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)
64742-49-0 Naphtha (petroleum), hydrotreated light	
EC50/48 h	10 mg/l (PHAEOPHYTA)
EL50/48 h	3 mg/l (DAPHNIA MAGNA)
EL50/72 h	30-100 mg/l (SELENASTRUM CAPRICORNUTUM)
LL50/96 h	11.4 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.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish

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· ***Additional ecological information:***
· ***General notes:***
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
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***	
08 00 00	*WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS*
08 01 00	*wastes from MFSU and removal of paint and varnish*
*08 01 11**	*waste paint and varnish containing organic solvents or other 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*
· ***IMDG*** *AEROSOLS*
· ***IATA*** *AEROSOLS, flammable*

· ***14.3 Transport hazard class(es)***

· ***ADR***

· ***Class*** *2 5F Gases.*
· ***Label*** *2.1*

· ***IMDG, IATA***

· ***Class*** *2.1*
· ***Label*** *2.1*

· ***14.4 Packing group***
· ***ADR, IMDG, IATA*** *Void*

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· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **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:**	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.
· **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

· **Risk phrases:**
12 Extremely flammable.
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.
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.
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 %
I	0.6
NK	64.5

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· **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

· **Other regulations, limitations and prohibitive regulations**
· **Please note:** 3-1
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H370	Causes damage to organs.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
R10	Flammable.
R11	Highly flammable.
R12	Extremely flammable.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R36	Irritating to eyes.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful 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.**