

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 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 Regulation (EC) No 1272/2008**



GHS02

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



GHS07

<i>Eye Irrit. 2</i>	<i>H319</i>	<i>Causes serious eye irritation.</i>
<i>STOT SE 3</i>	<i>H336</i>	<i>May cause drowsiness or dizziness.</i>
<i>Asp. Tox. 1</i>	<i>H304</i>	<i>May be fatal if swallowed and enters airways.</i>
<i>Aquatic Chronic 3</i>	<i>H412</i>	<i>Harmful to aquatic life with long lasting effects.</i>

- **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! Pressurised container.

Has a narcotising 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 Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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Trade name: DINITROL 482 SPRAY

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· **Hazard pictograms**



GHS02 GHS07

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

Naphtha (petroleum), hydrotreated light

Methyl ethyl ketone

Naphtha (petroleum), hydrotreated light

Naphtha (petroleum), hydrotreated light

· **Hazard statements**

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

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P251 Pressurized container: Do not pierce or burn, even after use.

P280 Wear protective gloves/protective clothing/eye protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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.

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. Keep away from sources of ignition - No smoking.

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:**

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.03.2015

Version number 25

Revision: 16.12.2014

Trade name: DINITROL 482 SPRAY

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CAS: 64742-49-0 EC number: 920-750-0 Reg.nr.: 01-2119473851-33-0001	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 C, H280	10-<25%
CAS: 106-97-8 EINECS: 203-448-7	Butane, pure F+ R12 Flam. Gas 1, H220; Press. Gas C, H280	10-<25%
CAS: 64742-49-0 EC number: 927-241-2 Reg.nr.: 01-2119471843-32	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 Reg.nr.: 01-2119475514-35	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 EC number: 918-668-5 Reg.nr.: 01-2119455851-35	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%

· **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 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:**

If symptoms persist consult doctor.

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.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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Trade name: DINITROL 482 SPRAY

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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.
- **For safety reasons unsuitable extinguishing agents:** 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.
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.
Use only in well ventilated areas.
- **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.
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:**
Store in a cool location.
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.
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.

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Trade name: **DINITROL 482 SPRAY**

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· **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/m ³ (General Population)
	Long-term - systemic effects, worker	2035 mg/m ³ (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/m ³ (General Population)
	Long-term - systemic effects, worker	1500 mg/m ³ (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/m ³ (General Population)
	Long-term - systemic effects, worker	2035 mg/m ³ (Worker)

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/m ³ (Worker)

67-56-1 Methanol

Oral	Acute - systemic effects, general population	8 mg/kg bw/day (General Population)
	Long-term - systemic effects, general population	8 mg/kg bw/day (General Population)
Dermal	Acute - systemic effects, general population	8 mg/kg (General population)
	Acute - systemic effects, worker	40 mg/kg bw/day (Worker)
	Long-term - systemic effects, general population	8 mg/kg bw/day (General population)
	Long-term - systemic effects, worker	40 mg/kg bw/day (Worker)
Inhalative	Acute - Local effects, worker	260 mg/m ³ (Worker)
	Acute - local effects, general population	50 mg/m ³ (General Population)

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Trade name: DINITROL 482 SPRAY

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Acute - systemic effects, general population	50 mg/m ³ (General Population)
Acute - systemic effects, worker	260 mg/m ³ (Worker)
Long-term - local effects, general population	50 mg/m ³ (General Population)
Long-term - local effects, worker	260 mg/m ³ (Worker)
Long-term - systemic effects, general population	50 mg/m ³ (General Population)
Long-term - systemic effects, worker	260 mg/m ³ (Worker)

· **PNECs**

67-56-1 Methanol

Aquatic compartment - freshwater	154 mg/L (not specified)
Aquatic compartment - marine water	15.4 mg/L (not specified)
Aquatic compartment - sediment in marine water	570.4 mg/kg sed dw (not specified)
Aquatic compartment - water, intermittent releases	1540 mg/L (not specified)
Sewage treatment plant	100 mg/L (not specified)
Terrestrial compartment - soil	23.5 mg/kg dw (not specified)

· **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:**

Short term filter device:



Filter AX

· **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.

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· 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:	Black
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:	11.5 Vol %

· Vapour pressure At 20 °C: 4500 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

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Trade name: **DINITROL 482 SPRAY**

(Contd. of page 7)

· **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

SECTION 11: Toxicological information

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

· **LD/LC50 values relevant for classification:****ATE (Acute Toxicity Estimates)**

Dermal	LD50	48860 mg/kg
Inhalative	LC50/4 h	341 mg/l

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

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

Dermal	LD50	>2000 mg/kg (RABBIT)
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67-56-1 Methanol

Oral	LD50	13000 mg/kg (rat)
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- **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.
- **Sensitisation:** Sensitising effect by skin contact is possible by prolonged exposure.
- **Additional toxicological information:** No further relevant information available.

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· **Ingestion:** Risk of chemical pneumonia if the product reaches the lungs at vomiting or similar.

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.

· Ecotoxicological effects:

· **Remark:** Harmful to fish

· 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.

Dispose of as dangerous waste.

· 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
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08 01 00	wastes from MFSU and removal of paint and varnish
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08 01 11*	waste paint and varnish containing organic solvents or other dangerous substances
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· Uncleaned packaging:

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

SECTION 14: Transport information

· 14.1 UN-Number

· **ADR, IMDG, IATA**

UN1950

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Trade name: DINITROL 482 SPRAY

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· 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
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· **14.6 Special precautions for user**

	Warning: Gases.
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· **Danger code (Kemler):**

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· **EMS Number:**

	F-D,S-U
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· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

	Not applicable.
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· **Transport/Additional information:**

· **ADR**

· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E0

	Not permitted as Excepted Quantity
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· **Transport category**

	2
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· **Tunnel restriction code**

	D
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· **IMDG**

· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E0

	Not permitted as Excepted Quantity
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· **UN "Model Regulation":**

	UN1950, AEROSOLS, 2.1
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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 Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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Trade name: **DINITROL 482 SPRAY**

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· **Hazard pictograms**

GHS02 GHS07

· **Signal word** *Danger*· **Hazard-determining components of labelling:***Naphtha (petroleum), hydrotreated light**Methyl ethyl ketone**Naphtha (petroleum), hydrotreated light**Naphtha (petroleum), hydrotreated light*· **Hazard statements***H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.**H319 Causes serious eye irritation.**H336 May cause drowsiness or dizziness.**H412 Harmful to aquatic life with long lasting effects.*· **Precautionary statements***P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**P251 Pressurized container: Do not pierce or burn, even after use.**P280 Wear protective gloves/protective clothing/eye protection.**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**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.*· **National regulations:**· **Technical instructions (air):**

Class	Share in %
I	0.6
NK	64.5

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

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Trade name: DINITROL 482 SPRAY

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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

· **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

Flam. Gas 1: Flammable gases, Hazard Category 1

Flam. Aerosol 1: Flammable aerosols, Hazard Category 1

Press. Gas C: Gases under pressure: Compressed gas

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

· *** Data compared to the previous version altered.**