

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

- **1.1 Product identifier**
- **Trade name: Dinitrol Metallic 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.



GHS09

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

R38: Irritating to skin.



F+; Extremely flammable

R12: Extremely flammable.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: 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.

Warning! Pressurised container.

Has a narcotising effect.

Trade name: Dinitrol Metallic Spray

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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.

Hazard pictograms

GHS02 GHS07 GHS09

Signal word Danger**Hazard-determining components of labelling:**

Naphtha (petroleum), hydrotreated light

Naphtha (petroleum), hydrotreated heavy

Hazard statements

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

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic 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.

P362 Take off contaminated clothing and wash before reuse.

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:

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)

Trade name: Dinitrol Metallic Spray

		(Contd. of page 2)
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	25-<50%
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: 64742-48-9 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%

· **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:** 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.
- **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.
- **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.
Avoid contact with skin, eyes and clothes.
- **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

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- 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:**
- 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.**
- **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)

· **DNELs**

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)

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

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· **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.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the skin.
- Avoid close or long term contact with the skin.
- Avoid contact with the eyes and skin.

· **Respiratory protection:**

Short term filter device:



Filter AX

· **Protection of hands:**



Protective gloves

· **Material of gloves**

Neoprene gloves (0,47 mm)

Chloroprene rubber

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:** Dark brown
- Odour:** Solvent-like
- Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

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Boiling point/Boiling range:	-44 °C
· Flash point:	< -20 °C (DIN 53213)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	> 200 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	0.6 Vol %
Upper:	10.9 Vol %
· Vapour pressure At 20 °C:	4500 hPa
· Density At 20 °C:	0.752 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:	69.4 %
Solids content:	30.1 % (DIN 53216)
· 9.2 Other information	No further relevant information available.
· VOC (EU):	69.41 %
· VOC (EU):	522.0 g/l
· VOCV:	69.41 %

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:**

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

Oral	LD50	>5840 mg/kg (RAT)
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Dermal	LD50	>2920 mg/kg (RAT)
Inhalative	LC50/4 h	> 23.3 mg/l (RAT)
106-97-8 Butane, pure		
Inhalative	LC50/4 h	658 mg/l (rat)
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)

· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

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

· **Sensitisation:** No sensitising effects known.

· **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:** Toxic for 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.

Also poisonous for fish and plankton in water bodies.

Toxic for 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

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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
· 14.2 UN proper shipping name · ADR · IMDG · IATA	1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS AEROSOLS (HEPTANES), MARINE POLLUTANT AEROSOLS, flammable
· 14.3 Transport hazard class(es) · ADR	
	
· Class · Label	2 5F Gases. 2.1
· IMDG	
	
· Class · Label	2.1 2.1
· IATA	
	
· Class · Label	2.1 2.1
· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	Product contains environmentally hazardous substances: Naphtha (petroleum), hydrotreated light Yes Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Gases. - 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.

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· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· Transport category	2
· Tunnel restriction code	D
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· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· UN "Model Regulation":	UN1950, AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS

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**



GHS02 GHS07 GHS09

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
Naphtha (petroleum), hydrotreated light
Naphtha (petroleum), hydrotreated heavy
- **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic 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.
P362 Take off contaminated clothing and wash before reuse.
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 %
NK	69.4

- **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.

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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.*
- H304 *May be fatal if swallowed and enters airways.*
- H315 *Causes skin irritation.*
- 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.*
- 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

· **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)*
- 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*
- Skin Irrit. 2: *Skin corrosion/irritation, Hazard Category 2*
- 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*

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