




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

- **1.1 Product identifier**
- **Trade name: *DINITROL 447 Protect 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** *Coating*
- **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**
-  **Xn; Harmful**
R20/21: Harmful by inhalation and in contact with skin.
-  **Xi; Irritant**
R38: Irritating to skin.
-  **F+; Extremely flammable**
R12: Extremely flammable.
- *R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- **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! Pressurized container.
- **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:**
Xn Harmful
F+ Extremely flammable
- **Hazard-determining components of labelling:**
Xylene, mixed isomers, pure

(Contd. on page 2)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 1)

· Risk phrases:

- 12 Extremely flammable.
- 20/21 Harmful by inhalation and in contact with skin.
- 38 Irritating to skin.
- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· 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.
- 29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
- 36/37 Wear suitable protective clothing and gloves.
- 46 If swallowed, seek medical advice immediately and show this container or label.
- 51 Use only in well-ventilated areas.

· Special labelling of certain preparations:

- Contains Gom Resin. May produce an allergic reaction.
- 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

· 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: 1330-20-7 EINECS: 215-535-7	Xylene, mixed isomers, pure ☒ Xn R20/21; ☒ Xi R38 R10 ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	10-<25%
CAS: 64742-49-0 EINECS: 265-151-9	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	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%

(Contd. on page 3)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 2)

CAS: 141-78-6 EINECS: 205-500-4	Ethyl acetate Xi R36; F R11 R66-67 <hr/> Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	5-<10%
CAS: 64742-48-9 EINECS: 265-150-3	Naphtha (petroleum), hydrotreated heavy Xn R65 R10-66-67 <hr/> Flam. Liq. 3, H226; Asp. Tox. 1, H304; STOT SE 3, H336	5-<10%
CAS: 64-17-5 EINECS: 200-578-6	Ethanol F R11 <hr/> Flam. Liq. 2, H225	1-<5%
CAS: 64742-82-1 EC number: 919-446-0	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) Xn R65; N R51/53 R10-66-67 <hr/> Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	1-<5%
CAS: 8050-09-7 EINECS: 232-475-7	Gom Resin Xi R43 <hr/> Skin Sens. 1, H317	<1%
CAS: 64742-95-6 EINECS: 265-199-0	Solvent naphtha (petroleum), light arom. Xn R65; Xi R37; N R51/53 R10-66-67 <hr/> Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	<1%
CAS: 110-54-3 EINECS: 203-777-6	n-Hexane Xn R48/20-62-65; Xi R38; F R11; N R51/53 R67 Repr. Cat. 3 <hr/> Flam. Liq. 2, H225; Repr. 2, H361f; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	<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

· General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. 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

Headache

Dizziness

Breathing difficulty

(Contd. on page 4)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 3)

- **4.3 Indication of any immediate medical attention and special treatment needed**
If swallowed or in case of vomiting, danger of entering the lungs.

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**
Carbon monoxide (CO)
Nitrogen oxides (NO_x)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **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**
Keep away from ignition sources.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Absorb liquid components with liquid-binding material.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
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.
- **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.

(Contd. on page 5)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 4)

- **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.
- **Maximum storage temperature:** <50 °C
- **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:**

1330-20-7 Xylene, mixed isomers, pure

WEL	Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
-----	--

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)
-----	---

141-78-6 Ethyl acetate

WEL	Short-term value: 400 ppm Long-term value: 200 ppm
-----	---

64-17-5 Ethanol

WEL	Long-term value: 1920 mg/m ³ , 1000 ppm
-----	--

· **Ingredients with biological limit values:**

1330-20-7 Xylene, mixed isomers, pure

BMGV	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid
------	--

· **CAS No. Designation of material % Type Value Unit**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **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.

(Contd. on page 6)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 5)

· **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.

Filter A/P2

· **Protection of hands:**



Protective gloves

· **Material of gloves**

PVA 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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Not suitable are gloves made of the following materials:** Strong material gloves

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

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: Not applicable, as aerosol.

· **Flash point:** < -10 °C (DIN 53213)

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

· **Ignition temperature:** 200 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

(Contd. on page 7)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 6)

· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	0.8 Vol %
Upper:	10.9 Vol %
· Vapour pressure At 20 °C:	4000 hPa
· Density At 20 °C:	0.82 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:	68.8 %
Solids content:	30.9 % (DIN 53216)
· 9.2 Other information	No further relevant information available.
· VOC (EU):	68.80 %
· VOC (EU):	565.0 g/l
· VOCV:	68.80 %

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:		
1330-20-7 Xylene, mixed isomers, pure		
Oral	LD50	8700 mg/kg (RAT)
Dermal	LD50	2000 mg/kg (RABBIT)
Inhalative	LC50/4 h	6350 mg/l (RAT)
64742-49-0 Naphtha (petroleum), hydrotreated light		
Oral	LD50	>5000 mg/kg (RAT)

(Contd. on page 8)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 7)

Dermal	LD50	>2600 mg/kg (RABBIT)
Inhalative	LC50/4 h	>193 mg/l (RAT)
106-97-8 Butane, pure		
Inhalative	LC50/4 h	658 mg/l (rat)
141-78-6 Ethyl acetate		
Oral	LD50	4935 mg/kg (RABBIT)
Inhalative	LC50/4 h	1600 mg/l (RAT)
64742-48-9 Naphtha (petroleum), hydrotreated heavy		
Oral	LD50	>5000 mg/kg (RAT)
Dermal	LD50	>3000 mg/kg (RAT)
64-17-5 Ethanol		
Oral	LD50	7060 mg/kg (rat)
Inhalative	LC50/4 h	20000 mg/l (rat)
64742-82-1 Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)		
Oral	LD50	>5000 mg/kg (RAT)
Dermal	LD50	>3000 mg/kg (RABBIT)
Inhalative	LC50/4 h	>2.8 mg/l (RAT)
64742-95-6 Solvent naphtha (petroleum), light arom.		
Oral	LD50	>6800 mg/kg (RAT)
Dermal	LD50	>3400 mg/kg (RAT)
Inhalative	LC50/4 h	>10.2 mg/l (RAT)

· **Primary irritant effect:**

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

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

· **Sensitization:** No sensitizing 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:

Harmful

Irritant

· **Inhalation:** Harmful by inhalation.

· **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

EC50/48 h | 10 mg/l (PHAEOPHYTA)

· **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

(Contd. on page 9)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 8)

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
15 00 00	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01 00	packaging (including separately collected municipal packaging waste)
15 01 10*	packaging containing residues of or contaminated by 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

(Contd. on page 10)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 9)

· Label	2.1
· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 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:	
· ADR · Limited quantities (LQ) · Transport category · Tunnel restriction code	1L 2 D

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:**
Xn Harmful
F+ Extremely flammable
- **Hazard-determining components of labelling:**
Xylene, mixed isomers, pure
- **Risk phrases:**
12 Extremely flammable.
20/21 Harmful by inhalation and in contact with skin.
38 Irritating to skin.
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **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.
29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
36/37 Wear suitable protective clothing and gloves.
46 If swallowed, seek medical advice immediately and show this container or label.
51 Use only in well-ventilated areas.
- **Special labelling of certain preparations:**
Contains Gom Resin. May produce an allergic reaction.

(Contd. on page 11)

Trade name: DINITROL 447 Protect Spray

(Contd. of page 10)

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	0.2
NK	68.6

· **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.*

H312 *Harmful in contact with skin.*

H315 *Causes skin irritation.*

H317 *May cause an allergic skin reaction.*

H319 *Causes serious eye irritation.*

H332 *Harmful if inhaled.*

H336 *May cause drowsiness or dizziness.*

H361f *Suspected of damaging fertility.*

H373 *May cause damage to organs through prolonged or repeated exposure.*

H411 *Toxic to aquatic life with long lasting effects.*

R10 *Flammable.*

R11 *Highly flammable.*

R12 *Extremely flammable.*

R20/21 *Harmful by inhalation and in contact with skin.*

R36 *Irritating to eyes.*

R37 *Irritating to respiratory system.*

R38 *Irritating to skin.*

R43 *May cause sensitisation by skin contact.*

R48/20 *Harmful: danger of serious damage to health by prolonged exposure through inhalation.*

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

R62 *Possible risk of impaired fertility.*

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.**