## 1. Identification

**Product identifier**

DINITROL 447 Black

**Relevant identified uses of the substance or mixture and uses advised against**

**Use of the substance/mixture**

Anti-corrosive coating

**Details of the supplier of the safety data sheet**

**Manufacturer**

| | | |
|---|---|---|
| Company name: | DINOL GmbH | |
| Street: | Pyrmonter Strasse 76 | |
| Place: | D-32676 Luegde | |
| Telephone: | + 49 (0) 5281 982980 | Telefax: + 49 (0) 5281 9829860 |
| E-mail: | msds@dinol.com | |
| Contact person: | Labor | |
| Responsible Department: | msds@dinol.com | |

**Supplier**

| | | |
|---|---|---|
| Company name: | DINOL U.S. Inc. | |
| Street: | 8500 Cotter Street, Lewis Center | |
| Place: | USA-43035 Ohio | |
| Telephone: | 740-548-1656 | Telefax: 740-548-1657 |
| E-mail: | info@dinolus.com | |
| Internet: | www.dinol.com | |

**Emergency telephone number:** 3E Company Emergency +1-866-404-4230

## 2. Hazard identification

**Classification of the substance or mixture**

**WHMIS 2015**

Flammable liquids: Flam. Liq. 2
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2
Respiratory or skin sensitization: Skin Sens. 1
Carcinogenicity: Carc. 2
Specific target organ toxicity - single exposure: STOT SE 3 (narcotic effects)
Specific target organ toxicity - repeated exposure: STOT RE 2

**Label elements**

**WHMIS 2015**

**Signal word:** Danger

**Pictograms:**

**Hazard statements**

Highly flammable liquid and vapour.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash water thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN: Wash with plenty of water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
Take off contaminated clothing and wash it before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
In case of fire: Use water to extinguish.
Store in a well-ventilated place. Keep cool.
Store locked up.

**Other hazards**

No information available.

## 3. Composition/information on ingredients

**Mixtures**

**Hazardous components**

| CAS No | Chemical name | Quantity |
|---|---|---|
| | Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | 15 - < 40% (*) |
| 1330-20-7 | xylene | 7 - < 13% (*) |
| 8050-09-7 | Rosin, colophony | 3 - < 7% (*) |
| 141-78-6 | ethyl acetate | 1 - < 5% (*) |
| | Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics | 1 - < 5% (*) |
| 25085-50-1 | Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol | 1 - < 5% (*) |
| 128601-23-0 | Hydrocarbons, C9, aromatics | 0.5 - < 1.5% (*) |
| 64-17-5 | Ethanol | 0.5 - < 1.5% (*) |
| 1333-86-4 | Carbon Black | 0.1 - < 1% (*) |

(*) The actual concentration is withheld as a trade secret.

**Further Information**

Full text of H- and EUH-statements: see section 16.

## 4. First-aid measures

**Description of first aid measures**

**General information**

If unconscious but breathing normally, place in recovery position and seek medical advice.
Never give anything by mouth to an unconscious person or a person with cramps.
In all cases of doubt, or when symptoms persist, seek medical advice.

**After inhalation**

Remove casualty to fresh air and keep warm and at rest.

**After contact with skin**

Change contaminated clothing.
Rinse skin with water [or shower].
If skin irritation occurs: Get medical advice/attention.

**After contact with eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing. In case of eye irritation consult an ophthalmologist.

**After ingestion**

If swallowed, rinse mouth with water (only if the person is conscious).
Call a physician immediately.
Put victim at rest, cover with a blanket and keep warm.
Do NOT induce vomiting.

**Most important symptoms and effects, whether acute or delayed**

Nausea, Dizziness, Headache.

**Indication of immediate medical attention and special treatment needed**

No information available.

## 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media**

alcohol resistant foam, Carbon dioxide (CO2), Extinguishing powder, Water fog.

**Unsuitable extinguishing media**

High power water jet.

**Specific hazards arising from the hazardous product**

Combustible. Vapours can form explosive mixtures with air.
Formation of: Carbon monoxide

**Special protective equipment and precautions for fire-fighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**General advice**

Provide adequate ventilation.
Wear personal protection equipment.
Avoid contact with skin, eyes and clothes.
Avoid breathing dust/fume/gas/mist/vapours/spray.

**For emergency responders**

For further specification, refer to section 8 of the SDS.

**Environmental precautions**

Do not allow uncontrolled discharge of product into the environment.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

**Methods and material for containment and cleaning up**

**For containment**

Prevent spread over a wide area (e.g. by containment or oil barriers).
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).
Treat the recovered material as prescribed in the section on waste disposal.

**For cleaning up**

Provide adequate ventilation.
Clear contaminated areas thoroughly.
Do not rinse down with water.

**Other information**

No information available.

**Reference to other sections**

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

## 7. Handling and storage

**Precautions for safe handling**

**Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used.
If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

**Advice on protection against fire and explosion**

Take precautionary measures against static discharges.
Keep away from sources of ignition - No smoking.
Vapours are heavier than air and will spread at floor level.
Vapours may form explosive mixtures with air.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.
When using do not eat or drink.
Wash hands before breaks and after work.
Avoid contact with skin and eyes.
Remove contaminated, saturated clothing immediately.
Do not breathe gas/vapour/aerosol.

**Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.
Keep container dry.
Keep away from heat. Protect from direct sunlight.

**Hints on joint storage**

Do not store together with: Oxidizing agents. Strong acid, strong alkalis

## 8. Exposure controls/Personal protection

**Control parameters**

**Exposure limits (ACGIH)**

| CAS No | Chemical name | ppm | mg/m³ | F/ml | Category | Origin |
|---|---|---|---|---|---|---|
| 1333-86-4 | Carbon black (inhalable fraction) | | 3 | | TWA (8 h) | ACGIH-2024 |
| 64-17-5 | Ethanol | 1000 | 1880 | | STEL (15 min) | ACGIH-2024 |
| 141-78-6 | Ethyl acetate | 400 | 1440 | | TWA (8 h) | ACGIH-2024 |
| 8050-09-7 | Resin acids, as total Resin acids | - | 0.001 | | TWA (8 h) | ACGIH-2024 |
| 14807-96-6 | Talc containing no asbestos fibers (respirable fraction) | | 2 | | TWA (8 h) | ACGIH-2024 |
| 1330-20-7 | Xylene: mixed isomers | 20 | | | TWA (8 h) | ACGIH-2024 |

**Biological limit values**

| CAS No | Chemical name | Parameter | Value | Test material | Sampling time |
|---|---|---|---|---|---|
| 1330-20-7 | XYLENES (technical or commercial grade) (ACGIH 2024) | Methylhippuric acids (creatinine) | 0.3 g/g | urine | End of shift |

**Exposure controls**

**Appropriate engineering controls**

Provide adequate ventilation.
If handled uncovered, arrangements with local exhaust ventilation should be used if possible.
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Eye glasses with side protection (EN 166)

**Hand protection**

Tested protective gloves must be worn (EN ISO 374):
FKM (fluoro rubber), Breakthrough time::
PVA (Polyvinyl alcohol), Breakthrough time::
NBR (Nitrile rubber), Breakthrough time::
Butyl caoutchouc (butyl rubber) Breakthrough time::
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Protective gloves have to be replaced at the first sign of deterioration.
Protect skin by using skin protective cream.

**Skin protection**

Wear anti-static footwear and clothing

**Respiratory protection**

Work in well-ventilated zones or use proper respiratory protection.
gas filtering equipment (EN 141)., Filter material/medium: A/P2

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

| | |
|---|---|
| Physical state: | Liquid |
| Colour: | black |

| | | | |
|---|---|---|---|
| Odour: | characteristic | | |
| Odour threshold: | not determined | | |
| | | | **Test method** |
| Melting point/freezing point: | | not determined | |
| Boiling point or initial boiling point and boiling range: | | 88 °C | |
| Flammability | | | |
| Solid/liquid: | | not applicable | |
| Lower explosive limits: | | 0,8 vol. % | |
| Upper explosive limits: | | 7,7 vol. % | |
| Flash point: | | - 12 °C | DIN 51755 |
| Auto-ignition temperature: | | 200 °C | |
| Decomposition temperature: | | not determined | |
| pH-Value: | | not determined | |
| Viscosity / kinematic: | | not determined | |
| Water solubility: | | The study does not need to be conducted because the substance is known to be insoluble in water. | |
| Solubility in other solvents | | | |
| not determined | | | |
| Partition coefficient n-octanol/water: | | not determined | |
| Vapour pressure: (at 20 °C) | | 85 hPa | |
| Density (at 20 °C): | | 1,02 - 1,06 g/cm³ | ISO 2811 |
| Relative vapour density: | | not determined | |

**Other information**

**Information with regard to physical hazard classes**

Explosive properties

not determined

Self-ignition temperature

| | |
|---|---|
| Solid: | not applicable |
| Gas: | not applicable |

Oxidizing properties

not determined

**Other safety characteristics**

| | |
|---|---|
| Evaporation rate: | not determined |
| Solvent separation test: | not determined |
| Solvent content: | 51,80 %, water: 0,02 % |
| Solid content: | 46 - 50 % |
| Sublimation point: | not determined |
| Softening point: | not determined |
| Pour point: | not determined |
| Viscosity / dynamic: (at 20 °C) | 400 - 600 mPa·s |

**Further Information**

No information available.

## 10. Stability and reactivity

**Reactivity**

No hazardous reaction when handled and stored according to provisions.

**Chemical stability**

The product is stable under storage at normal ambient temperatures.

**Possibility of hazardous reactions**

No known hazardous reactions.

**Conditions to avoid**

Keep away from heat.

**Incompatible materials**

No information available.

**Hazardous decomposition products**

Carbon monoxide

## 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

Based on available data, the classification criteria are not met.

**ATEmix calculated**

ATE (oral) > 5000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 12,5 mg/l

| CAS No | Chemical name | | | | | |
|---|---|---|---|---|---|---|
| | Route of exposure | Dose | | Species | Source | Method |
| | Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | | | | | |
| | oral | LD50 mg/kg | > 2000 | Rat | | |
| | dermal | LD50 mg/kg | >2000 | Rabbit | | |
| | inhalation (4 h) vapour | LC50 | > 20 mg/l | Rat | | |
| 1330-20-7 | xylene | | | | | |
| | oral | LD50 mg/kg | 8700 | Rat | | |
| | dermal | LD50 mg/kg | 2000 | Rabbit | | |
| | inhalation (4 h) vapour | LC50 mg/l | 10-20 | Rat | | |
| | inhalation dust/mist | ATE | 1,5 mg/l | | | |
| 8050-09-7 | Rosin, colophony | | | | | |
| | oral | LD50 mg/kg | 2800 | Rat | | |
| | dermal | LD50 mg/kg | >2000 | Rat | | |
| 141-78-6 | ethyl acetate | | | | | |
| | oral | LD50 mg/kg | 5620 | Rat | | |
| | dermal | LD50 mg/kg | >20000 | Rabbit | | |
| | inhalation (4 h) vapour | LC50 | 50 mg/l | Rat | | |
| | Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics | | | | | |
| | oral | LD50 mg/kg | 4951 | Rat | | |
| | dermal | LD50 mg/kg | 5000 | Rabbit | | |
| | inhalation (4 h) vapour | LC50 | 4951 mg/l | Rat | | |
| 128601-23-0 | Hydrocarbons, C9, aromatics | | | | | |
| | oral | LD50 mg/kg | > 2000 | Rat | | |
| | dermal | LD50 mg/kg | > 3160 | Rabbit | | |
| 64-17-5 | Ethanol | | | | | |
| | oral | LD50 mg/kg | 10470 | Rat | | |
| | dermal | LD50 mg/kg | > 2000 | Rabbit | | |
| | inhalation (4 h) vapour | LC50 | > 50 mg/l | Rat | | |
| 1333-86-4 | Carbon Black | | | | | |
| | oral | LD50 mg/kg | > 8000 | Rat | | |

**Irritation and corrosivity**

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye irritation: Causes serious eye irritation.

**Sensitizing effects**

May cause an allergic skin reaction. (Rosin, colophony; Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol)

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of causing cancer. (Carbon Black)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

May cause drowsiness or dizziness. (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (xylene)

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

No information available.

**Specific effects in experiment on an animal**

No information available.

**Additional information on tests**

No information available.

**Practical experience**

No information available.

**Information on other hazards**

**Endocrine disrupting properties**

Endocrine disrupting potential No information available.

**Further information**

There are no data available on the preparation/mixture itself.

## 12. Ecological information

**Ecotoxicity**

| CAS No | Chemical name | | | | | | |
|---|---|---|---|---|---|---|---|
| | Aquatic toxicity | Dose | | [h] \| [d] | Species | Source | Method |
| | Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | | | | | | |
| | Acute fish toxicity | LC50 | 10-100 mg/l | 96 h | Pimephales promelas (fathead minnow) | | |
| | Acute algae toxicity | ErC50 | 30-100 mg/l | 72 h | Pseudokirchneriella subcapitata | | |
| | Acute crustacea toxicity | EC50 | > 1 - 10 mg/l | 48 h | Daphnia magna (Big water flea) | | |
| | Fish toxicity | NOEC | 2,045 mg/l | 28 d | Oncorhynchus mykiss (Rainbow trout) | | |
| | Crustacea toxicity | NOEC | 1 mg/l | 21 d | Daphnia magna (Big water flea) | | |
| 1330-20-7 | xylene | | | | | | |
| | Acute fish toxicity | LC50 | 86 mg/l | 96 h | Leuciscus idus (golden orfe) | | |
| | Acute algae toxicity | ErC50 | 2-8 mg/l | | Selenastrum capricornutum | | |
| | Acute crustacea toxicity | EC50 | 1-10 mg/l | 48 h | | | |
| 8050-09-7 | Rosin, colophony | | | | | | |
| | Acute algae toxicity | ErC50 | 400-410 mg/l | 72 h | Scenedesmus subspicatus | | |
| | Fish toxicity | NOEC | >1 mg/l | 4 d | Danio rerio (zebrafish) | | |
| | Acute bacteria toxicity | EC50 | >10000 mg/l ( ) | 3 h | Activated sludge | | |
| 141-78-6 | ethyl acetate | | | | | | |
| | Acute fish toxicity | LC50 | 230 mg/l | 96 h | Pimephales promelas (fathead minnow) | | |
| | Acute algae toxicity | ErC50 | 3300 mg/l | | Desmodesmus subspicatus | 48 h | |
| | Acute crustacea toxicity | EC50 | 717 mg/l | 48 h | Daphnia magna (Big water flea) | | |
| | Acute bacteria toxicity | EC50 | 2900 mg/l ( ) | | Pseudomonas putida | 16 h | |
| 128601-23-0 | Hydrocarbons, C9, aromatics | | | | | | |
| | Acute fish toxicity | LC50 | 1 - 10 mg/l | 96 h | | | |
| 64-17-5 | Ethanol | | | | | | |
| | Acute algae toxicity | ErC50 | 275 mg/l | 72 h | Chlorella vulgaris | | |
| | Acute crustacea toxicity | EC50 | > 10000 mg/l | 48 h | Daphnia magna (Big water flea) | | |
| 1333-86-4 | Carbon Black | | | | | | |
| | Acute fish toxicity | LC50 | > 1000 mg/l | 96 h | Brachydanio rerio (Zebrabärbling) | | |
| | Algae toxicity | NOEC | 10000 mg/l | 3 d | Scenedesmus subspicatus | | |

**Persistence and degradability**

There are no data available on the mixture itself.

**Bioaccumulative potential**

There are no data available on the mixture itself.

**Partition coefficient n-octanol/water**

| CAS No | Chemical name | Log Pow |
|---|---|---|
| | Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | 3,4-5,2 |
| 141-78-6 | ethyl acetate | 0,73 |

**Mobility in soil**

There are no data available on the mixture itself.

**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**Other adverse effects**

No information available.

**Further information**

There are no data available on the preparation/mixture itself.
Do not allow to enter into surface water or drains.

## 13. Disposal considerations

**Waste treatment methods**

**Disposal recommendations**

Dispose of waste according to applicable legislation. Do not mix with other wastes.

**Contaminated packaging**

Remove according to the regulations.

## 14. Transport information

**Canadian TDG**

| | |
|---|---|
| **UN number:** | UN 1139 |
| **Proper shipping name:** | Coating solution |
| **Hazard classes:** | 3 |
| **Packing group:** | II |
| Hazard label: | 3 |
| Limited quantity: | 5L |


**Marine transport (IMDG)**

| | |
|---|---|
| **UN number or ID number:** | UN 1139 |
| **United Nations proper shipping name:** | COATING SOLUTION (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane; Hydrocarbons, C9, aromatics), MARINE POLLUTANT |
| **Transport hazard class(es):** | 3 |
| **Packing group:** | II |
| Hazard label: | 3 |


| | |
|---|---|
| Marine pollutant: | yes |
| Special Provisions: | - |
| Limited quantity: | 5 L |
| EmS: | F-E, S-E |

**Other applicable information (marine transport)**

E2

**Air transport (ICAO-TI/IATA-DGR)**

| | |
|---|---|
| **UN number or ID number:** | UN 1139 |
| **United Nations proper shipping name:** | COATING SOLUTION |
| **Transport hazard class(es):** | 3 |
| **Packing group:** | II |
| Hazard label: | 3 |


| | |
|---|---|
| Special Provisions: | A3 |
| Limited quantity Passenger: | 1 L |
| IATA-packing instructions - Passenger: | 353 |
| IATA-max. quantity - Passenger: | 5 L |
| IATA-packing instructions - Cargo: | 364 |
| IATA-max. quantity - Cargo: | 60 L |

**Other applicable information (air transport)**

E2

Passenger-LQ: Y341

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: Yes

Danger releasing substance: trizinc bis(orthophosphate)
Hydrocarbons, C9, aromatics

## 15. Regulatory information

**Canadian regulations**

**DSL/NDSL inventory status**

Substance/product listed in the following inventories: DSL/NDSL

**Additional information**

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none

311362

## 16. Other information

**Changes**

This data sheet contains changes from the previous version in section(s): 2,8,9,14,15,16.

**Abbreviations and acronyms**

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 Harmonized 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

LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*