Safety Data Sheet

according to 29 CFR 1910.1200(g)

DINITROL 447 Black

1. Identification

Product identifier

DINITROL 447 Black

Recommended use of the chemical and restrictions on use

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

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Flammable liquids: Flam. Liq. 2
Skin corrosion/irritation: Skin 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 or prolonged exposure: STOT RE 2

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:

Hazard statements

Highly flammable liquid and vapor
Causes skin irritation
May cause an allergic skin reaction
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/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash water thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must 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/shower.
Take off contaminated clothing and wash it before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
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.

Hazards not otherwise classified

No information available.

3. Composition/information on ingredients

Mixtures

Hazardous components

CAS No	Components	Quantity
	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	31 %
1330-20-7	xylene	11.66 %
8050-09-7	Rosin, colophony	6.899 %
141-78-6	ethyl acetate	4.499 %
	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	2.76 %
25085-50-1	Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol	1.51 %
128601-23-0	Hydrocarbons, C9, aromatics	1.38 %
1333-86-4	Carbon Black	0.84 %

Further Information

Full text of H 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, both acute and delayed

Nausea, Dizziness, Headache.

Indication of any 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 chemical

Combustible. Vapors may 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/stream to protect personnel and to cool endangered containers. Supress gases/vapors/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/vapors/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 (PPE): 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

CAS No	Substance	ppm	mg/m³	f/cc	Category	Origin
1317-65-3	Calcium carbonate (total)	-	10		TWA (8 h)	REL
1317-65-3	Calcium Carbonate Respirable fraction	-	5		TWA (8 h)	PEL
1333-86-4	Carbon black (in presence of polycyclic aromatic hydrocarbons (PAHs)) (as PAHs)	-	0.1		TWA (8 h)	REL
1333-86-4	Carbon black (inhalable fraction)		3		TWA (8 h)	ACGIH-2024
1333-86-4	Carbon black	-	3.5		TWA (8 h)	PEL
64-17-5	Ethanol	1000	1880		STEL (15 min)	ACGIH-2024
141-78-6	Ethyl acetate	400	1400		TWA (8 h)	PEL
		400	1400		TWA (8 h)	REL
		400	1440		TWA (8 h)	ACGIH-2024
64-17-5	Ethyl alcohol (Ethanol)	1000	1900		TWA (8 h)	PEL
64-17-5	Ethyl alcohol	1000	1900		TWA (8 h)	REL
8050-09-7	Resin acids, as total Resin acids	-	0.001		TWA (8 h)	ACGIH-2024
14807-96-6	Talc (containing no asbestos and less than 1% quartz) (resp)	-	2		TWA (8 h)	REL
14807-96-6	Talc (containing no asbestos) respirable dust	706 mp/m³	-		TWA (8 h)	PEL
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
1330-20-7	Xylenes (o-,m-,p-isomers)	100	435		TWA (8 h)	PEL

Biological Exposure Indices (BEI-ACGIH)

CAS No	Substance	Determinant	Value	Test material	Sampling time
1330-20-7	XYLENES (technical or commercial grade)	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
Color:	black
Odor:	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 explosion limits:	0,8 vol. %	
Upper explosion 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	
Vapor 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

Stability: Stable

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

Hazardous reactions: Will not occur

No known hazardous reactions.

Conditions to avoid

Keep away from heat.

Incompatible materials

No information available.

Hazardous decomposition products

Carbon monoxide

11. Toxicological information

Route(s) of Entry

No information available.

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	Components					
	Exposure route	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		
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: Based on available data, the classification criteria are not met.

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.

Specific target organ toxicity (STOT) - single exposure
May cause drowsiness or dizziness (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)

Specific target organ toxicity (STOT) - repeated exposure
May cause damage to organs through prolonged or repeated exposure (xylene)

Carcinogenicity (OSHA):	No ingredient of this mixture is listed.
Carcinogenicity (IARC):	Talc not containing asbestos or asbestiform fibres (CAS 14807-96-6) is listed in group 3. Xylenes (CAS 1330-20-7) is listed in group 3. Ethanol in alcoholic beverages (CAS 64-17-5) is listed in group 1. Carbon black (CAS 1333-86-4) is listed in group 2B.
Carcinogenicity (NTP):	No ingredient of this mixture is listed.

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

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	Components						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane						
	Acute fish toxicity	LC50 mg/l	10-100	96 h	Pimephales promelas (fathead minnow)		
	Acute algae toxicity	ErC50 mg/l	30-100	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 mg/l	> 1 - 10	48 h	Daphnia magna (Big water flea)		
	Fish toxicity	NOEC mg/l	2,045	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 mg/l	1-10	48 h			
8050-09-7	Rosin, colophony						
	Acute algae toxicity	ErC50 mg/l	400-410	72 h	Scenedesmus subspicatus		
	Fish toxicity	NOEC	>1 mg/l	4 d	Danio rerio (zebrafish)		
	Acute bacteria toxicity	EC50 mg/l ( )	>10000	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 mg/l	3300		Desmodesmus subspicatus	48 h	
	Acute crustacea toxicity	EC50	717 mg/l	48 h	Daphnia magna (Big water flea)		
	Acute bacteria toxicity	EC50 mg/l ( )	2900		Pseudomonas putida	16 h	
128601-23-0	Hydrocarbons, C9, aromatics						
	Acute fish toxicity	LC50 mg/l	1 - 10	96 h			
1333-86-4	Carbon Black						
	Acute fish toxicity	LC50 mg/l	> 1000	96 h	Brachydanio rerio (Zebrabärbling)		
	Algae toxicity	NOEC mg/l	10000	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	Components	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

U.S. DOT 49 CFR 172.101

UN number or ID number: UN 1139
Transport hazard class(es): 3
Packing group: II

Marine transport (IMDG)

UN number or ID number: UN 1139
UN 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
UN 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

Special precautions for user

Warning: Flammable liquids

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

15. Regulatory information

U.S. Regulations

National Inventory TSCA

Substance/product listed in the following inventories: TSCA

National regulatory information

SARA Section 304 CERCLA:
Xylene (mixed isomers) (1330-20-7): Reportable quantity = 100 (45.4) lbs. (kg)
Ethyl acetate (141-78-6): Reportable quantity = 5,000 (2270) lbs. (kg)

SARA Section 311/312 Hazards:
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane (-): Fire hazard, Immediate (acute) health hazard
Xylene (mixed isomers) (1330-20-7): Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
Rosin, colophony (8050-09-7): Immediate (acute) health hazard
Ethyl acetate (141-78-6): Fire hazard, Immediate (acute) health hazard
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics (-): Fire hazard, Immediate (acute) health hazard
Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol (25085-50-1): Immediate (acute) health hazard
Hydrocarbons, C9, aromatics (128601-23-0): Fire hazard, Immediate (acute) health hazard
Ethanol (64-17-5): Fire hazard
Carbon Black (1333-86-4): Delayed (chronic) health hazard

SARA Section 313 Toxic release inventory:
Xylene (mixed isomers) (1330-20-7): De minimis limit = 1.0 %, Reportable threshold = Standard

Clean Air Act Section 112(b):
Xylene (mixed isomers) (1330-20-7)

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

WARNING: This product can expose you to chemicals including Carbon black (airborne, unbound particles of respirable size) (cancer), which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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

Hazardous Materials Identification System (HMIS)

Health:	0
Flammability:	2
Physical Hazard:	0

NFPA Hazard Ratings

Health:	0
Flammability:	2
Reactivity:	0
Unique Hazard:	

Changes

Revision date:	11/20/2024
Revision No:	1,9

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%

Other data

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.)