

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 1 of 13

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
E-mail: msds@dinol.com
Contact person: Labor
Responsible Department: msds@dinol.com

Telefax: + 49 (0) 5281 9829860

Supplier

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

Telefax: 740-548-1657

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

2. Hazard identification

Classification of the substance or mixture

WHMIS 2015

Flammable liquid: 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.

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 2 of 13

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

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 3 of 13

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.

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 4 of 13

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**

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 5 of 13

Exposure limits (ACGIH)

CAS No	Chemical name	ppm	mg/m ³	F/ml	Category	Origin
8050-09-7	(OLD) Rosin core solder thermal decomposition products (colophony)	-	-		as low as possible	ACGIH-2023
1333-86-4	Carbon black (inhalable fraction)		3		TWA (8 h)	ACGIH-2023
64-17-5	Ethanol	1000			STEL (15 min)	ACGIH-2023
141-78-6	Ethyl acetate	400			TWA (8 h)	ACGIH-2023
14807-96-6	Talc containing no asbestos fibers (respirable fraction)		2		TWA (8 h)	ACGIH-2023
1330-20-7	Xylene: mixed isomers	20			TWA (8 h)	ACGIH-2023

Biological limit values

CAS No	Chemical name	Parameter	Value	Test material	Sampling time
1330-20-7	XYLENES (technical or commercial grade) (ACGIH 2023)	Methylhippuric acids (creatinine)	1.5 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

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 6 of 13

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:	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:	85 hPa	
(at 20 °C)		
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: 400 - 600 mPa·s
(at 20 °C)

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.

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 7 of 13

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) 5529 mg/kg; ATE (dermal) 3806 mg/kg; ATE (inhalation vapour) 41,84 mg/l; ATE (inhalation dust/mist) 12,87 mg/l

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 8 of 13

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

Irritation and corrosivity

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 9 of 13

Causes skin 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**

Safety Data Sheet

according to WHMIS

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 10 of 13

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 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		
64-17-5	Ethanol					
	Acute algae toxicity	ErC50	275 mg/l	72 h	Chlorella vulgaris	
	Acute crustacea toxicity	EC50 mg/l	> 10000	48 h	Daphnia magna (Big water flea)	
1333-86-4	Carbon Black					
	Acute fish toxicity	LC50 mg/l	> 1000	96 h	Brachydanio rerio (Zebrafärbling)	
	Algae toxicity	NOEC mg/l	10000	3 d	Scenedesmus subspicatus	

Persistence and degradability

There are no data available on the mixture itself.

Bioaccumulative potential

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 11 of 13

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

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 12 of 13

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

COATING SOLUTION

name:
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

Directive 2004/42/EC on VOC in

51,8 % (539 g/l)

paints and varnishes:

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

16. Other information

Changes

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

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

Safety Data Sheet

according to WHMIS

DINITROL 447 Black

Revision date: 10.11.2023

Product code: 5100

Page 13 of 13

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.)