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# Safety data sheet

acc. to EU regulations 1272/2008 and 1907/2006 incl. all amendments

Printing date 02.10.2017 Revision: 02.10.2017

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

1.1 Product identifier

Trade name: DINITROL 538 PLUS

Article number: DCHIS08745

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 Primer

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Hersteller/ Producer: EFTEC AG, Hofstrasse 31, CH-8590 Romanshorn

EU-Importeur/ EU-Importer: EFTEC Ltd., Rhigos/Aberdare, GB-Mid Glamorgan CF44 9UE (Responsible for

chemical registration in EU)

Lieferant/Supplier: DINOL GmbH, Pyrmonterstrasse 76, D-32676 Lügde

Further information obtainable from: msds@dinol.com

1.4 Emergency telephone number:

Deutschland: +49 30 30 686 700 Giftnotruf Berlin, Beratung in Deutsch und Englisch

Schweiz: +41 44 25 15 15 1 Toxikologisches Informationszentrum Österreich: +43 14 06 43 43 Vergiftungsinformationszentrale

# SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction. STOT SE 3 H336 May cause drowsiness or dizziness.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

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Trade name: DINITROL 538 PLUS

#### Hazard pictograms







GHS02

GHS07

#### Signal word Danger

#### Hazard-determining components of labelling:

butanone

Hexamethylene diisocyanate, oligomers

diphenylmethanediisocyanate,isomeres and homologues

Hazard statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H336 May cause drowsiness or dizziness.

Precautionary statements

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water

[or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

2.3 Other hazards none

Results of PBT and vPvB assessment

**PBT:** Not applicable. vPvB: Not applicable.

# SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 78-93-3 EINECS: 201-159-0 Reg.nr.: 01-2119457290-43-0000	butanone  Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	50-100%
CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29-0000	2-methoxy-1-methylethyl acetate     Flam. Liq. 3, H226	5-10%
CAS: 28182-81-2 NLP: 500-060-2 Reg.nr.: 01-2119485796-17-0000	Hexamethylene diisocyanate, oligomers  • Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	5-10%
CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29-0000	n-butyl acetate Flam. Liq. 3, H226; STOT SE 3, H336	1-5%

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		(Con	td. of page 2)
(	CAS: 1330-20-7	xylene, mixture of isomers	1-5%
_	EINECS: 215-535-7 Reg.nr.: 01-2119488216-32-0000	Flam. Liq. 3, H226;  Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	
(	CAS: 9016-87-9	diphenylmethanediisocyanate,isomeres and homologues	0.1-1%
	EC number: 618-498-9	🗞 Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373;	
1	Reg.nr.: 01-2119457024-46-0000	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	

Additional information: For the wording of the listed hazard phrases refer to section 16.

#### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

#### After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation. **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Seek immediate medical advice.

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: No special measures required.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

#### 6.2 Environmental precautions:

Prevent seepage into sewage system, workpits and cellars.

Do not allow to enter sewers/ surface or ground water.

# 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

#### 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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# SECTION 7: Handling and storage

# 7.1 Precautions for safe handling

No special measures required.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

## Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

### 7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility: Not required.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Maximum storage temperature: < 35°C Minimum storage temperature: > 0°C Storage temperature: 0, 35°C

Storage temperature: 0 - 35 °C

Storage class: 3

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.

#### & 1 Control parameters

Ingredients with lin	nit values that require monitoring at the workplace:
78-93-3 butanone	
AGW (DACH)	Long-term value: 600 mg/m³, 200 ppm 1(I);DFG, EU, H, Y
MAK (Switzerland)	Short-term value: 590 mg/m³, 200 ppm Long-term value: 590 mg/m³, 200 ppm H B SSc;
108-65-6 2-methox	y-1-methylethyl acetate
AGW (DACH)	Long-term value: 270 mg/m³, 50 ppm 1(I);DFG, EU, Y
MAK (Switzerland)	Short-term value: 275 mg/m³, 50 ppm Long-term value: 275 mg/m³, 50 ppm SSc;
123-86-4 n-butyl ac	cetate
AGW (DACH)	Long-term value: 300 mg/m³, 62 ppm 2(I);AGS, Y
MAK (Switzerland)	Short-term value: 960 mg/m³, 200 ppm Long-term value: 480 mg/m³, 100 ppm SSc;

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1220 20 7 1	(Contd. of page
1330-20-7 xylene, n	
AGW (DACH)	Long-term value: 440 mg/m³, 100 ppm 2(II);DFG, EU, H
MAK (Switzerland)	Short-term value: 870 mg/m³, 200 ppm
	Long-term value: 435 mg/m³, 100 ppm H B;
9016-87-9 diphenyl	methanediisocyanate,isomeres and homologues
AGW (DACH)	Long-term value: 0.05 E mg/m³ 1;=2=(I);DFG, H, Sah, Y, 12
MAK (Switzerland)	Short-term value: 0.02 mg/m <sup>3</sup> Long-term value: 0.02 mg/m <sup>3</sup>
	SB;als Gesamt-NCO gemessen
-	ological limit values:
78-93-3 butanone	
	2 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: 2-Butanon
	2 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Biol. Parameter: 2-Butanon (MEK)
1330-20-7 xylene, n	nixture of isomers
	1.5 mg/l Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Xylol
	2 g/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Methylhippur-(Tolur-)Säure
	1.5 g/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: bei Langzeitexposition: Nach mehreren vorangegangenen Schichte Expositionsende bzw. Schichtende Biol. Parameter: Methyl-Hippursäure
	1.5 mg/l Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: Expositionsende bzw. Schichtende Biol. Parameter: Xylol

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.

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Avoid contact with the eyes.

Avoid contact with the eyes and skin.

#### Respiratory protection:



Use suitable respiratory protective device in case of insufficient ventilation.

#### Filter A

#### Protection of hands:



Protective gloves (DIN EN 374)

Chemical resistant protective gloves with CE-labeling

To minimise the wetness in the glove due to perspiration changing of gloves during a shift is required.

Softening of the callus when wearing air-impermeable gloves is possible.

Check the permeability prior to each anewed use of the glove.

### Material of gloves

Butyl 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.

#### Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

#### Eye protection:



Safety glasses (DIN EN 166)

#### **Body protection:**



Protective work clothing

# SECTION 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

**General Information** 

Appearance:

Form: Liquid Black

Odour:CharacteristicOdour threshold:Not determined.

pH-value: Not determined.

Change in condition

*Melting point/freezing point:* Undetermined.

Initial boiling point and boiling range: 79°C

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Flash point:	-4°C
Flammability (solid, gas):	Not applicable.
Ignition temperature:	>300°C
Decomposition temperature:	Not determined.
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Explosion limits:	
Lower:	1.8 Vol %
Upper:	11.5 Vol %
Vapour pressure at 20°C:	105 hPa
Density at 20°C:	0.92 g/cm³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
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:	72.3 %
9.2 Other information	No further relevant information available.

# SECTION 10: Stability and reactivity

- 10.1 Reactivity No further relevant information available.
- 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: No dangerous decomposition products known.

# SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

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

LD/LC50 values relevant for classification:		
ATE (Acute Toxicity Estimates)		
Dermal	LD50	139,891 mg/kg (rabbit)
Inhalative	LC50/4h	129 mg/l

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78-93-3 butanone		
Oral	LD50	3,300 mg/kg (rat)
Dermal	LD50	5,000 mg/kg (rabbit)
Inhalative	LC50/4h	12 ppm (rat)
108-65-6 2	-methoxy-	1-methylethyl acetate
Oral	LD50	8,500 mg/kg (rat)
Inhalative	LC50/4h	35.7 mg/l (rat)
28182-81-2 Hexamethylene diisocyanate, oligomers		hylene diisocyanate, oligomers
Oral	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/4h	11 mg/l (ATE)
123-86-4 n	-butyl ace	tate
Oral		
Inhalative	LC50/4h	>21 mg/l (rat)
1330-20-7	xylene, mi	ixture of isomers
Oral	LD50	8,700 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)
Inhalative	LC50/4h	6,350 mg/l (rat)
9016-87-9	diphenylm	nethanediisocyanate,isomeres and homologues
Oral	LD50	>10,000 mg/kg (rat) (OECD-Prüfrichtlinie 401)
Dermal	LD50	>9,400 mg/kg (rabbit) (OECD-Prüfrichtlinie 402)
Inhalative	LC50/4h	310 mg/l (rat) (OECD-Prüfrichtlinie 403)

### Specific symptoms in biological assay:

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Causes serious eye irritation.

# Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

#### Other information (about experimental toxicology):

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)

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

Carcinogenicity 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.

STOT-repeated exposure Based on available data, the classification criteria are not met.

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

# SECTION 12: Ecological information

#### 12.1 Toxicity

Aquatic toxicit	y:	
78-93-3 butan	one	
LC50/ 96h	3,220 mg/l (fish)	
EC50/48h	5,000 mg/l (daphnia)	
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1,150 mg/l (bacteria)		
108-65-6 2-methoxy-1-methylethyl acetate		
>100 mg/l (fish)		
373 mg/l (daphnia)		
28182-81-2 Hexamethylene diisocyanate, oligomers		
>100 mg/l (fish) (Richtlinie 67/548/EWG, Anhang V, C.1.)		
>100 mg/l (daphnia) (Richtlinie 67/548/EWG, Anhang V, C.2.)		
>100 mg/l (alga) (Richtlinie 67/548/EWG, Anhang V, C.2.)		
cetate		
81 mg/l (fish)		
9016-87-9 diphenylmethanediisocyanate,isomeres and homologues		
>1,000 mg/l (fish) (OECD-Prüfrichtlinie 203)		
>1,640 mg/l (alga) (OECD-Prüfrichtlinie 201)		
>1,000 mg/l (daphnia) (OECD-Prüfrichtlinie 202)		

- 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.

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.

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	European waste catalogue		
	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS		
08 04 00	wastes from MFSU of adhesives and sealants (including waterproofing products)		
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances		

#### Uncleaned packaging:

**Recommendation:** Disposal must be made according to official regulations.

# **SECTION 14: Transport information**

14.1 UN-Number ADR, IMDG, IATA UN1866

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Trade name: DINITROL 538 PLUS

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14.2 UN proper shipping name ADR IMDG, IATA	RESIN SOLUTION (vapour pressure at 50°C not more than 110 kPa) RESIN SOLUTION
<u> </u>	RESHY SOLUTION
14.3 Transport hazard class(es)	
ADR	
Class	3 (F1) Flammable liquids.
Label	3
IMDG, IATA	
Class	3 Flammable liquids.
Label	3
14.4 Packing group ADR, IMDG, IATA	II
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user	Warning: Flammable liquids.
Danger code (Kemler):	33 E E C E
EMS Number: Stowage Category	F-E, <u>S-E</u> B
14.7 Transport in bulk according to Anne	
Marpol and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	51
Limited quantities (LQ) Excepted quantities (EQ)	5L Code: E2
Excepted quantutes (EQ)	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
Transport category	2
Tunnel restriction code	D/E
<i>IMDG</i>	
Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
UN ''Model Regulation'':	UN 1866 RESIN SOLUTION (VAPOUR PRESSURE AT 50°C
	NOT MORE THAN 110 KPA), 3, II

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# **SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

Seveso category P5c FLAMMABLE LIQUIDS

Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t

**REGULATION (EC)** No 1907/2006 ANNEX XVII Conditions of restriction: 3, 20

National regulations:

Technical instructions (air):

Class	Share in %
Ι	0.1-1
NK	50-100

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients is listed.

EU-VOC: 72.34 %

15.2 Chemical safety assessment:

This safety data sheet contains exposure scenario contents in an integrated form. Contents of the ES have been included into sections 1.2, 8, 9, 12, 15 and 16 of this MSDS.

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

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

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.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

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

Department issuing SDS: Entwicklung

Contact: msds@dinol.com 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 Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity - Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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