

Safety data sheet

accord. to 1907/2006/EC, Art. 31, incl. Comm. Regul. (EU) No 453/2010




Printing date 05.03.2014

Revision: 05.03.2014

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

- **Product identifier**
- **Trade name:** *DINITROL 538 PLUS*
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Layer to promote adhesion
- **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*
- **Emergency telephone number:** *UK National Poisons Information Service 08 45 46 47*

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
-  **Xn; Sensitising**
R42/43: May cause sensitisation by inhalation and skin contact.
-  **Xi; Irritant**
R36: Irritating to eyes.
-  **F; Highly flammable**
R11: Highly flammable.
R67: Vapours may cause drowsiness and dizziness.
- **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.
Has a narcotizing effect.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

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Trade name: **DINITROL 538 PLUS**

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· **Code letter and hazard designation of product:**



Xn Harmful
F Highly flammable

· **Hazard-determining components of labelling:**

HMDI-Oligomere
diphenylmethanediisocyanate, isomeres and homologues

· **Risk phrases:**

11 Highly flammable.
36 Irritating to eyes.
42/43 May cause sensitisation by inhalation and skin contact.
67 Vapours may cause drowsiness and dizziness.

· **Safety phrases:**

9 Keep container in a well-ventilated place.
23 Do not breathe spray.
24 Avoid contact with skin.
37 Wear suitable gloves.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
60 This material and its container must be disposed of as hazardous waste.

· **Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer

· **Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **Results of PBT and vPvB assessment**

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

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

CAS: 78-93-3 EINECS: 201-159-0	butanone Xn R36; F R11 R66-67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	50-100%
CAS: 108-65-6 EINECS: 203-603-9	2-methoxy-1-methylethyl acetate R10 Flam. Liq. 3, H226	5-10%
CAS: 1333-86-4 EINECS: 215-609-9	Carbon black substance with a Community workplace exposure limit	5-10%
CAS: 28182-81-2 NLP: 500-060-2	HMDI-Oligomere Xn R20; Xi R37; Xi R43 Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	5-10%

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CAS: 123-86-4 EINECS: 204-658-1	n-butyl acetate R10-66-67 ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	1-5%
CAS: 1330-20-7 EINECS: 215-535-7	xylene, mixture of isomers ⊠ Xn R20/21; ⊠ Xi R38 R10 ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	1-5%
CAS: 9016-87-9 EC number: 618-498-9	diphenylmethanediisocyanate, isomeres and homologues ⊠ Xn R20-40-48/20; ⊠ Xn R42/43; ⊠ Xi R36/37/38 Carc. Cat. 3 ⚠ Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.1-1%

- **SVHC** The mixture of substances contain no SVHC (Substances of Very High Concern, <http://echa.europa.eu>)
- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **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.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:**
Water
Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Prevent seepage into sewage system, workpits and cellars.
Do not allow to enter sewers/ surface or ground water.

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- **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
- **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.

7 Handling and storage

- **Handling:**
- **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.
- **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
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

Ingredients with limit values that require monitoring at the workplace:**78-93-3 butanone**

WEL	Short-term value: 899 mg/m ³ , 300 ppm
	Long-term value: 600 mg/m ³ , 200 ppm
	Sk, BMGV

108-65-6 2-methoxy-1-methylethyl acetate

WEL	Short-term value: 548 mg/m ³ , 100 ppm
	Long-term value: 274 mg/m ³ , 50 ppm
	Sk

1333-86-4 Carbon black

WEL	Short-term value: 7 mg/m ³
	Long-term value: 3.5 mg/m ³

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123-86-4 n-butyl acetate

WEL Short-term value: 966 mg/m³, 200 ppm
Long-term value: 724 mg/m³, 150 ppm

1330-20-7 xylene, mixture of isomers

WEL Short-term value: 441 mg/m³, 100 ppm
Long-term value: 220 mg/m³, 50 ppm
Sk; BMGV

9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

WEL Short-term value: 0.07 mg/m³
Long-term value: 0.02 mg/m³
Sen; as -NCO

· Ingredients with biological limit values:

78-93-3 butanone

BMGV 70 µmol/L
Medium: urine
Sampling time: post shift
Parameter: butan-2-one

1330-20-7 xylene, mixture of isomers

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

· **Additional information:** The lists valid during the making were used as basis.

· 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 eyes.
Avoid contact with the eyes and skin.

· Respiratory protection:



Use suitable respiratory protective device in case of insufficient ventilation.

Filter AX

· Protection of hands:



Protective gloves

Chemical resistant protective gloves with CE-labeling

To minimize 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.

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

· **Eye protection:**



Safety glasses

· **Body protection:**



Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Black

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 79 °C

· **Flash point:** -4 °C

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

· **Ignition temperature:** 300 °C

· **Decomposition temperature:** Not determined.

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

· **Danger of explosion:** 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:** 0.927 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

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· 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 %
Solids content:	27.2 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

Oral	LD50	> 10000 mg/kg (rat) (OECD-Prüfrichtlinie 401)
Dermal	LD50	> 9400 mg/kg (rabbit) (OECD-Prüfrichtlinie 402)
Inhalative	LC50/ 4h	310 mg/l (rat) (OECD-Prüfrichtlinie 403)
Der Stoff wurde in einer Form (d.h. spezielle Partikelgrößenverteilung) getestet, die sich von den Formen, wie sie vermarktet und aller Voraussicht nach verwendet werden, unterscheidet. Deshalb ist eine modifizierte Einstufung der akuten Inhalationstoxizität gerechtfertigt. Quelle: SDB DESMODUR VL / Bayer		

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:**
- Sensitization possible through inhalation.
- Sensitization possible through skin contact.
- **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

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Irritant

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12 Ecological information· **Toxicity**· **Aquatic toxicity:****9016-87-9 diphenylmethanediisocyanate, isomeres and homologues**

EC50/ 24h (static) > 1000 mg/l (daphnia) (OECD-Prüfrichtlinie 202)

EC50/ 72h > 1640 mg/l (alga) (OECD-Prüfrichtlinie 201)

LC50/ 96h (static) > 1000 mg/l (fish) (OECD-Prüfrichtlinie 203)

· **Persistence and degradability** No further relevant information available.· **Behaviour in environmental systems:**· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Additional ecological information:**· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

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.

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.**13 Disposal considerations**· **Waste treatment methods**· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

08 00 00 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 dangerous substances

· **Uncleaned packaging:**· **Recommendation:** Disposal must be made according to official regulations.**14 Transport information**· **UN-Number**· **ADR, IMDG, IATA**

UN1866

· **UN proper shipping name**· **ADR**

UN1866 RESIN SOLUTION (vapour pressure at 50 °C not more than 110 kPa)

· **IMDG, IATA**

RESIN SOLUTION

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· **Transport hazard class(es)**· **ADR**

- **Class** 3 (F1) Flammable liquids.
- **Label** 3

· **IMDG, IATA**

- **Class** 3 Flammable liquids.
- **Label** 3

· **Packing group**

- **ADR, IMDG, IATA** II

· **Environmental hazards:**

- **Marine pollutant:** No

- **Special precautions for user** Warning: Flammable liquids.

- **Danger code (Kemler):** 33

- **EMS Number:** F-E,S-E

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

- **ADR**
- **Limited quantities (LQ)** 5L
- **Transport category** 2
- **Tunnel restriction code** D/E

15 Regulatory information

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

- **National regulations:**

- **Technical instructions (air):**

Class	Share in %
I	0.1-1
NK	50-100

- **EU-VOC:** 72.34 %

- **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

GB

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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.*
- R10 *Flammable.*
- R11 *Highly flammable.*
- R20 *Harmful by inhalation.*
- R20/21 *Harmful by inhalation and in contact with skin.*
- R36 *Irritating to eyes.*
- R36/37/38 *Irritating to eyes, respiratory system and skin.*
- R37 *Irritating to respiratory system.*
- R38 *Irritating to skin.*
- R40 *Limited evidence of a carcinogenic effect.*
- R42/43 *May cause sensitisation by inhalation and skin contact.*
- R43 *May cause sensitisation by skin contact.*
- R48/20 *Harmful: danger of serious damage to health by prolonged exposure through inhalation.*
- R66 *Repeated exposure may cause skin dryness or cracking.*
- R67 *Vapours may cause drowsiness and dizziness.*

· **Department issuing MSDS:** *Entwicklung*· **Contact:** *msds@dinol.com*· **Country***United Kingdom of Great Britain and Northern Ireland*· * **Data compared to the previous version altered.**