

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

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

1.1 Product identifier

Trade name: *DINITROL 538 PLUS*

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

Sector of Use

SU3, SU17, SU22

SU3, SU17, SU21, SU22

Product category PC1 Adhesives, sealants

Process category PROC1-5, PROC7, PROC8a, PROC8b, PROC9-11, PROC13-14, PROC 19, PROC21

Environmental release category ERC5, ERC8c, ERC8d, ERC8f

Article category Not applicable

Application of the substance / the mixture Primer

Uses advised against SU21 Consumer uses: Private households / general public / consumers

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: Giftnotruf D-Berlin +49(0)30 30686 790 Beratung in Deutsch und Englisch.

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.



GHS07

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.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

(Contd. on page 2)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: DINITROL 538 PLUS

(Contd. of page 1)

**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 narcotising effect.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

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

Hazard pictograms

GHS02



GHS07



GHS08

Signal word Danger**Hazard-determining components of labelling:**

butanone

HMDI-Oligomere

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): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.**Additional information:****EUH204** Contains isocyanates. May produce an allergic reaction.**2.3 Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

GB

(Contd. on page 3)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: **DINITROL 538 PLUS**

(Contd. of page 2)

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 78-93-3 EINECS: 201-159-0	butanone ☒ Xi R36; ☒ F R11 R66-67 ☒ Flam. Liq. 2, H225; ☒ Eye Irrit. 2, H319; STOT SE 3, H336	50-<99.999%
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%
CAS: 123-86-4 EINECS: 204-658-1	n-butyl acetate R10-66-67 ☒ Flam. Liq. 3, H226; ☒ STOT SE 3, H336	1-<3%
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-<3%
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	0.3-<1%

Additional information: For the wording of the listed risk 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.

GB

(Contd. on page 4)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: DINITROL 538 PLUS

(Contd. of page 3)

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.**See Section 13 for disposal information.***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***7.3 Specific end use(s)** *No further relevant information available.*

GB

(Contd. on page 5)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: **DINITROL 538 PLUS**

(Contd. of page 4)

SECTION 8: Exposure controls/personal protection

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

8.1 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
-----	---

123-86-4 n-butyl acetate

WEL	Short-term value: 966 mg/m ³ , 200 ppm Long-term value: 724 mg/m ³ , 150 ppm
-----	---

1330-20-7 xylene, mixture of isomers

WEL	Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
-----	--

9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ 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.

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.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

(Contd. on page 6)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: DINITROL 538 PLUS

(Contd. of page 5)

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 renewed 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 through 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
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

(Contd. on page 7)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: DINITROL 538 PLUS

(Contd. of page 6)

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:	0.91 g/cm ³
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 %
Solids content:	23.5 %
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity**10.1 Reactivity****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:****LD/LC50 values relevant for classification:****ATE (Acute Toxicity Estimates)**

Dermal	LD50	139891 mg/kg (rabbit)
Inhalative	LC50/ 4h	89.4 mg/l

(Contd. on page 8)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: **DINITROL 538 PLUS**

(Contd. of page 7)

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)

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitisation:

Sensitisation possible through inhalation.

Sensitisation 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

Irritant

SECTION 12: Ecological information

12.1 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)

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 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.

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 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

(Contd. on page 9)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: DINITROL 538 PLUS

(Contd. of page 8)

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**SECTION 14: Transport information****14.1 UN-Number****ADR, IMDG, IATA**

UN1866

14.2 UN proper shipping name**ADR**

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

IMDG, IATA

RESIN 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

EMS Number:

F-E,S-E

14.7 Transport in bulk according to Annex II of**MARPOL73/78 and the IBC Code**

Not applicable.

Transport/Additional information:**ADR****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

Transport category

2

Tunnel restriction code

D/E

(Contd. on page 10)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: DINITROL 538 PLUS

(Contd. of page 9)

IMDG**Limited quantities (LQ)**
Excepted quantities (EQ)5L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml**UN "Model Regulation":**

UN1866, RESIN SOLUTION (vapour pressure at 50 °C not more than 110 kPa), 3, II

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations:****Technical instructions (air):**

Class	Share in %
I	0.3-<1
NK	50-100

Other regulations, limitations and prohibitive regulations**Substances of very high concern (SVHC) according to REACH, Article 57**The mixture of substances contain no SVHC (Substances of Very High Concern, <http://echa.europa.eu>)**EU-VOC:** 72.34 %**15.2 Chemical safety assessment:** 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.

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.

(Contd. on page 11)

Safety data sheet

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

Printing date 26.05.2015

Revision: 26.05.2015

Trade name: DINITROL 538 PLUS

(Contd. of page 10)

- 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**Abbreviations and acronyms:**

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Carc. 2: Carcinogenicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

*** Data compared to the previous version altered.**

GB