Safety data sheet

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

Printing date 22.10.2015 *Revision: 22.10.2015*

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:

UK National Poisons Information Service +44(0)8 45 46 47

USA, For help in emergency call +1-866-404-4230

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.

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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 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): 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.*

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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*	*butanone* *Xi 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: 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*	*1-5%*
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%*

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.

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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.

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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	
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-methoxy-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 acetate	
AGW (DACH)	Long-term value: 300 mg/m³, 62 ppm 2(I);Y, AGS
MAK (Switzerland)	Short-term value: 960 mg/m³, 200 ppm Long-term value: 480 mg/m³, 100 ppm SSc;
1330-20-7 xylene, mixture of isomers	
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 diphenylmethanediisocyanate,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/m³ Long-term value: 0,02 mg/m³ SB;als Gesamt-NCO gemessen

Ingredients with biological limit values:	
78-93-3 butanone	
BGW (DACH)	5 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: 2-Butanon
BAT (Switzerland)	5 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Biol. Parameter: 2-Butanon (MEK)

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1330-20-7 xylene, mixture of isomers	
BGW (DACH)	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
BAT (Switzerland)	1,5 g/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: bei Langzeitexposition: Nach mehreren vorangegangenen Schichten, 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.
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.

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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*
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:	*0,91 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.*

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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 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:		
Dermal	LD50	139891 mg/kg (rabbit)
Inhalative	LC50/ 4h	129 mg/l

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:
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.
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.

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

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:	
9016-87-9 diphenylmethanediisocyanate,isomeres and homologues	
LC50/ 96h (static)	*> 1000 mg/l (fish) (OECD-Prüfrichtlinie 203)*
EC50/ 72h	*> 1640 mg/l (alga) (OECD-Prüfrichtlinie 201)*
EC50/ 24h (static)	*> 1000 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 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*

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*

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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
Stowage Category B

14.7 Transport in bulk according to Annex II of Marpol 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

IMDG
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

National regulations:

Technical instructions (air):

Class	Share in %
I	0.1-1
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.
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.

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R67 Vapours may cause drowsiness and dizziness.

Department issuing MSDS: *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
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, 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