

## Safety data sheet

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

Printing date 13.08.2015

Revision: 13.08.2015

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

#### 1.1 Product identifier

Trade name: **DINITROL 520**

#### 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 PCI 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 Activator /

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](mailto: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.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

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



Xi; Sensitising

R43: May cause sensitisation by skin contact.



F; Highly flammable

R11: Highly flammable.

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**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.

**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

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

3-aminopropyltriethoxysilane

3-trimethoxysilylpropane-1-thiol

**Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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.

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

**2.3 Other hazards****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: 64-17-5	ethanol	50-100%
EINECS: 200-578-6	F R11	
	Flam. Liq. 2, H225	

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CAS: 67-63-0 EINECS: 200-661-7	propan-2-ol Xi R36; F R11 R67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	5-<10%
CAS: 4420-74-0 EINECS: 224-588-5	3-trimethoxysilylpropane-1-thiol Xn R22; Xi R43; N R51/53 Aquatic Chronic 2, H411; Acute Tox. 4, H302; Skin Sens. 1, H317	1-<2,5%
CAS: 919-30-2 EINECS: 213-048-4	3-aminopropyltriethoxysilane C R34; Xn R22; Xi R43 Skin Corr. 1B, H314; Acute Tox. 4, H302; Skin Sens. 1, H317	1-<5%

**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.

**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. Then 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:** CO<sub>2</sub>, 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).

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.

## 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: &lt; 35 °C

Minimum storage temperature: &gt; 0 °C

Storage temperature: 0 - 35 °C

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.

### 8.1 Control parameters

#### Ingredients with limit values that require monitoring at the workplace:

##### 64-17-5 ethanol

AGW (DACH) Long-term value: 960 mg/m<sup>3</sup>, 500 ppm  
2(II);DFG, YWEL (Great Britain english) Long-term value: 1920 mg/m<sup>3</sup>, 1000 ppm

##### 67-63-0 propan-2-ol

AGW (DACH) Long-term value: 500 mg/m<sup>3</sup>, 200 ppm  
2(II);DFG, YWEL (Great Britain english) Short-term value: 1250 mg/m<sup>3</sup>, 500 ppm  
Long-term value: 999 mg/m<sup>3</sup>, 400 ppm

#### Ingredients with biological limit values:

##### 67-63-0 propan-2-ol

BGW (DACH) 25 mg/l  
Untersuchungsmaterial: Vollblut  
Probennahmezeitpunkt: Expositionsende bzw. Schichtende  
Parameter: Aceton25 mg/l  
Untersuchungsmaterial: Urin  
Probennahmezeitpunkt: Expositionsende bzw. Schichtende  
Parameter: Aceton

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**Additional information:** The lists valid during the making were used as basis.**8.2 Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

**Respiratory protection:**

Filter A

Not necessary if room is well-ventilated.

**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**

Nitrile rubber, NBR

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:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

<b>pH-value:</b>	Not determined.
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**Change in condition**

<b>Melting point/Melting range:</b>	-89,5 °C
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<b>Boiling point/Boiling range:</b>	78 °C
<b>Flash point:</b>	13 °C
<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	425 °C
<b>Decomposition temperature:</b>	Not determined.
<b>Self-igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
<b>Explosion limits:</b>	
<b>Lower:</b>	3,5 Vol %
<b>Upper:</b>	15,0 Vol %
<b>Vapour pressure at 20 °C:</b>	59 hPa
<b>Density at 20 °C:</b>	0,8 g/cm <sup>3</sup>
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with water at 20 °C:</b>	1 g/l
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	96,5 %
<b>Solids content:</b>	0,1 %
<b>9.2 Other information</b>	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****LD/LC50 values relevant for classification:****ATE (Acute Toxicity Estimates)**

Oral | LD50 | 30033 mg/kg (rat)

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**4420-74-0 3-trimethoxysilylpropane-1-thiol**

Oral	LD50	774 mg/kg (rat)
Dermal	LD50	2268 mg/kg (rat)

**Primary irritant effect:****Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/irritation**

Causes serious eye irritation.

**Respiratory or skin sensitisation**

May cause an allergic skin reaction.

**CMR effects (carcinogenicity, 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** Based on available data, the classification criteria are not met.**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 toxicity:****4420-74-0 3-trimethoxysilylpropane-1-thiol**

EC50/ 48h	6,7 mg/l (daphnia) (EG 92/69)
EC50/ 72h	267 mg/l (alga) (EG 92/69)
IC50/ 96h	439 mg/l (fish) (EG 92/69)
NOEC 72h	40 mg/l (alga) (EG 92/69)

**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.

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

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**SECTION 14: Transport information****14.1 UN-Number**

ADR, IMDG, IATA

UN1993

**14.2 UN proper shipping name**

ADR

UN1993 FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50 °C not more than 110 kPa) (ETHANOL (ETHYL ALCOHOL), ISOPROPANOL (ISOPROPYL ALCOHOL))

IMDG

FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL), ISOPROPANOL (ISOPROPYL ALCOHOL))

IATA

FLAMMABLE LIQUID, N.O.S. (ETHANOL, ISOPROPANOL (ISOPROPYL ALCOHOL))

**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**

Marpol and the IBC Code

Not applicable.

**Transport/Additional information:**

ADR

Limited quantities (LQ)

1L

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

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**IMDG****Limited quantities (LQ)**  
**Excepted quantities (EQ)**1L  
Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml**UN "Model Regulation":**UN 1993 FLAMMABLE LIQUID, N.O.S. (VAPOUR  
PRESSURE AT 50 °C NOT MORE THAN 110 KPA)  
(ETHANOL (ETHYL ALCOHOL), ISOPROPANOL  
(ISOPROPYL ALCOHOL)), 3, II**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 %
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: 96,51 %

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.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

R11 Highly flammable.

R22 Harmful if swallowed.

R34 Causes burns.

R36 Irritating to eyes.

R43 May cause sensitisation by skin contact.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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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

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

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

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

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

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

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

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

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