

**Safety Data Sheet**

according to UK REACH Regulation

**DINITROL 545 22 NF**

Revision date: 16.04.2025

Product code: 90022

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking**
**1.1. Product identifier**

DINITROL 545 22 NF

UFI: N05E-PKWM-C20K-F92S

**1.2. Relevant identified uses of the substance or mixture and uses advised against**
**Use of the substance/mixture**

Adhesion promotor

**1.3. Details of the supplier of the safety data sheet**
**Manufacturer**

Company name:	DINOL GmbH	
Street:	Pyrmonter Strasse 76	
Place:	D-32676 Luegde	
Telephone:	+ 49 (0) 5281 982980	Telefax: + 49 (0) 5281 9829860
E-mail:	msds@dinol.com	
Contact person:	Labor	
Responsible Department:	msds@dinol.com	

**Supplier**

Company name:	Leading Solvent Supplies Limited
Street:	Marston Business Park, Rudgate
Place:	GB Tockwith, York YO26 7QF
E-mail:	enquiries@leading-solvents.co.uk
Internet:	www.leading-solvents.co.uk

Giftnotruf Berlin: +49 30 30686 700 (Beratung in Deutsch und Englisch)

**1.4. Emergency telephone number:**
**SECTION 2: Hazards identification**
**2.1. Classification of the substance or mixture**
**GB CLP Regulation**

Flam. Liq. 2; H225  
 Eye Irrit. 2; H319  
 STOT SE 3; H336

Full text of hazard statements: see SECTION 16.

**2.2. Label elements**
**GB CLP Regulation**
**Hazard components for labelling**

isopropanol (isopropyl alcohol)  
 Butyltitanat(IV)

**Signal word:** Danger

**Pictograms:**

**Hazard statements**

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

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**Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P370+P378	In case of fire: Use Water, Carbon dioxide (CO <sub>2</sub> ), alcohol resistant foam to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

**Labelling of packages where the contents do not exceed 125 ml**
**Signal word:** Danger

**Pictograms:**

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
67-63-0	isopropanol (isopropyl alcohol)			80 - 100 %
	200-661-7	603-117-00-0	01-2119457558-25	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			
5593-70-4	Butyltitanat(IV)			1 - < 3 %
	227-006-8		01-2119967423-33	
	Flam. Liq. 3, Skin Irrit. 2, Eye Dam. 1, STOT SE 3, STOT SE 3; H226 H315 H318 H335 H336			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
67-63-0	200-661-7	isopropanol (isopropyl alcohol)	80 - 100 %
	inhalation: LC50 = 30 mg/l (vapours); dermal: LD50 = 13400 mg/kg; oral: LD50 = 4570 mg/kg		
5593-70-4	227-006-8	Butyltitanat(IV)	1 - < 3 %
	dermal: LD50 = > 5000 mg/kg; oral: LD50 = 3122 mg/kg		

**Further Information**

Full text of H- and EUH-statements: see section 16.

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

In all cases of doubt, or when symptoms persist, seek medical advice.  
 Never give anything by mouth to an unconscious person or a person with cramps.  
 If unconscious but breathing normally, place in recovery position and seek medical advice.

**After inhalation**

Remove casualty to fresh air and keep warm and at rest.

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**After contact with skin**

Change contaminated clothing.  
After contact with skin, wash immediately with plenty of water and soap.

**After contact with eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing. Seek medical advice immediately.

**After ingestion**

If swallowed, rinse mouth with water (only if the person is conscious).  
Do NOT induce vomiting.  
Call a physician immediately.  
Put victim at rest, cover with a blanket and keep warm.

**4.2. Most important symptoms and effects, both acute and delayed**

No information available.

**4.3. Indication of any immediate medical attention and special treatment needed**

No information available.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

alcohol resistant foam, Carbon dioxide (CO<sub>2</sub>), Extinguishing powder. Water fog.

**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**

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

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet.  
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Provide adequate ventilation.  
Wear personal protection equipment.  
Avoid contact with skin, eyes and clothes.  
Avoid breathing dust/fume/gas/mist/vapours/spray.

**For emergency responders**

For further specification, refer to section 8 of the SDS.

**6.2. Environmental precautions**

Do not allow uncontrolled discharge of product into the environment.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

**6.3. Methods and material for containment and cleaning up****For containment**

Prevent spread over a wide area (e.g. by containment or oil barriers).  
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).  
Treat the recovered material as prescribed in the section on waste disposal.

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**For cleaning up**

Provide adequate ventilation.  
Clear contaminated areas thoroughly.  
Do not rinse down with water.

**Other information**

No information available.

**6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

**SECTION 7: Handling and storage**
**7.1. Precautions for safe handling**
**Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used.  
If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

**Advice on general occupational hygiene**

The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately.  
Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

**7.2. Conditions for safe storage, including any incompatibilities**
**Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Hints on joint storage**

No information available.

**Further information on storage conditions**

minimum storage temperature : 5 °C  
maximum storage temperature : 25 °C  
Recommended storage temperature : 5 - 25 °C

**7.3. Specific end use(s)**

No further relevant information available.

**SECTION 8: Exposure controls/personal protection**
**8.1. Control parameters**
**Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL

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**DNEL/DMEL values**

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
67-63-0	isopropanol (isopropyl alcohol)		
Consumer DNEL, long-term	inhalation	systemic	89 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	319 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	26 mg/kg bw/day
Worker DNEL, long-term	dermal	systemic	888 mg/kg bw/day
Worker DNEL, long-term	inhalation	systemic	500 mg/m <sup>3</sup>
5593-70-4	Butyltitanat(IV)		
Consumer DNEL, long-term	inhalation	systemic	152 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	37,5 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	3,75 mg/kg bw/day

**PNEC values**

CAS No	Substance	
Environmental compartment	Value	
67-63-0	isopropanol (isopropyl alcohol)	
Freshwater	140,9 mg/l	
Marine water	140,9 mg/l	
Freshwater sediment	552 mg/kg	
Marine sediment	552 mg/kg	
Secondary poisoning	160 mg/kg	
Micro-organisms in sewage treatment plants (STP)	2251 mg/l	
Soil	28 mg/kg	
5593-70-4	Butyltitanat(IV)	
Freshwater	0,08 mg/l	
Marine water	0,008 mg/l	
Freshwater sediment	0,069 mg/kg	
Marine sediment	0,007 mg/kg	
Micro-organisms in sewage treatment plants (STP)	65 mg/l	
Soil	0,017 mg/kg	

**8.2. Exposure controls**

**Appropriate engineering controls**

Provide adequate ventilation.

If handled uncovered, arrangements with local exhaust ventilation should be used if possible.

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

**Individual protection measures, such as personal protective equipment**

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#### Eye/face protection

Eye glasses with side protection (DIN EN 166)

#### Hand protection

Tested protective gloves must be worn (EN ISO 374):

FKM (fluoro rubber) penetration time (maximum wearing period): 480 min.

NBR (Nitrile rubber) penetration time (maximum wearing period): 480 min.

Thickness of the glove material : > 0,12 mm

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves have to be replaced at the first sign of deterioration.

Protect skin by using skin protective cream.

#### Skin protection

Wear anti-static footwear and clothing

#### Respiratory protection

Work in well-ventilated zones or use proper respiratory protection.

gas filtering equipment (EN 141). Filter material/medium :A/P2

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	like: Alcohol	
Odour threshold:	not determined	
Melting point/freezing point:		< - 75 °C
Boiling point or initial boiling point and boiling range:		> 77 °C
Flammability:		not determined
Lower explosion limits:		1,9 vol. %
Upper explosion limits:		13,4 vol. %
Flash point:		12 °C
Auto-ignition temperature:		not determined
Decomposition temperature:		not applicable
pH-Value:		7 - 8
Viscosity / kinematic:		not determined
Water solubility:		not applicable
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		> 1100 hPa
(at 50 °C)		
Density:		0,75 - 0,85 g/cm <sup>3</sup>
Relative vapour density:		not determined
Particle characteristics:		not applicable

### 9.2. Other information

#### Information with regard to physical hazard classes

Explosive properties

not determined

Oxidizing properties

not determined

#### Other safety characteristics

Softening point: not determined

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 Viscosity / dynamic:  
(at 20 °C)

2 mPa·s

**Further Information**

No information available.

**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

No hazardous reaction when handled and stored according to provisions.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

No known hazardous reactions.

**10.4. Conditions to avoid**

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

**10.5. Incompatible materials**

No information available.

**10.6. Hazardous decomposition products**

No further relevant information available.

**SECTION 11: Toxicological information**
**11.1. Information on hazard classes as defined in GB CLP Regulation**
**Acute toxicity**

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

**ATE<sub>mix</sub> calculated**

ATE (oral) &gt; 2000 mg/kg; ATE (dermal) &gt; 2000 mg/kg; ATE (inhalation vapour) &gt; 20 mg/l; ATE (inhalation dust/mist) &gt; 5 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
67-63-0	isopropanol (isopropyl alcohol)					
	oral	LD50 mg/kg	4570	Rat		
	dermal	LD50 mg/kg	13400	Rabbit		
	inhalation (4 h) vapour	LC50	30 mg/l	Rat		
5593-70-4	Butyltitanat(IV)					
	oral	LD50 mg/kg	3122	Rat		
	dermal	LD50 mg/kg	> 5000	Rabbit		

**Irritation and corrosivity**

Serious eye damage/eye irritation: Causes serious eye irritation.

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

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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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. (isopropanol (isopropyl alcohol))

#### 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.

#### Information on likely routes of exposure

No information available.

#### Specific effects in experiment on an animal

No information available.

#### Additional information on tests

No information available.

#### Practical experience

No information available.

#### 11.2. Information on other hazards

##### Endocrine disrupting properties

Endocrine disrupting potential No information available.

#### Further information

There are no data available on the preparation/mixture itself.

### SECTION 12: Ecological information

#### 12.1. Toxicity

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

#### 12.2. Persistence and degradability

There are no data available on the mixture itself.

#### 12.3. Bioaccumulative potential

There are no data available on the mixture itself.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
67-63-0	isopropanol (isopropyl alcohol)	0,05
5593-70-4	Butyltitanat(IV)	0,84

#### 12.4. Mobility in soil

There are no data available on the mixture itself.

#### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

#### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

#### 12.7. Other adverse effects

No information available.

#### Further information

There are no data available on the mixture itself.

### SECTION 13: Disposal considerations

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**13.1. Waste treatment methods**
**Disposal recommendations**

Dispose of waste according to applicable legislation.  
Do not mix with other wastes.

**List of Wastes Code - residues/unused products**

080709

**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Dispose according to legislation.

**SECTION 14: Transport information**
**Land transport (ADR/RID)**

**14.1. UN number or ID number:** UN 1993  
**14.2. UN proper shipping name:** FLAMMABLE LIQUID, N.O.S. ( propan-2-ol; isopropyl alcohol; isopropanol )  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Classification code: F1  
 Special Provisions: 274 601 640D  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 Transport category: 2  
 Hazard No: 33  
 Tunnel restriction code: D/E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 1993  
**14.2. UN proper shipping name:** FLAMMABLE LIQUID, N.O.S. ( propan-2-ol; isopropyl alcohol; isopropanol )  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
 Hazard label: 3



Classification code: F1  
 Special Provisions: 274 601 640D  
 Limited quantity: 1 L  
 Excepted quantity: E2

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 1993  
**14.2. UN proper shipping name:** FLAMMABLE LIQUID, N.O.S. ( propan-2-ol; isopropyl alcohol; isopropanol )

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**14.3. Transport hazard class(es):** 3

**14.4. Packing group:** II

Hazard label: 3



Marine pollutant: no

Special Provisions: 274

Limited quantity: 1 L

Excepted quantity: E2

EmS: F-E, S-E

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 1993

**14.2. UN proper shipping name:** FLAMMABLE LIQUID, N.O.S. ( propan-2-ol; isopropyl alcohol; isopropanol )

**14.3. Transport hazard class(es):** 3

**14.4. Packing group:** II

Hazard label: 3



Special Provisions: A3

Limited quantity Passenger: 1 L

Passenger LQ: Y341

Excepted quantity: E2

IATA-packing instructions - Passenger: 353

IATA-max. quantity - Passenger: 5 L

IATA-packing instructions - Cargo: 364

IATA-max. quantity - Cargo: 60 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information**
**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Directive 2004/42/EC on VOC in 97,1 % (728,25 g/l)

paints and varnishes:

Information according to Directive P5c FLAMMABLE LIQUIDS

2012/18/EU (SEVESO III):

**Additional information**

Observe in addition any national regulations!

Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work

**National regulatory information**

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Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 1 - slightly hazardous to water

#### Additional information

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none

#### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

### SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s): 2,8,9,16.

#### Abbreviations and acronyms

Flam. Liq: Flammable liquids  
 Skin Irrit: Skin irritation  
 Eye Dam: Eye damage  
 Eye Irrit: Eye irritation  
 STOT SE: Specific target organ toxicity - single exposure  
 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 Harmonized 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  
 LC50: Lethal concentration, 50%  
 LD50: Lethal dose, 50%

#### Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Eye Irrit. 2; H319	Calculation method
STOT SE 3; H336	Calculation method

#### Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

This safety data sheet complies with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

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*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*