Safety Data Sheet

according to UK REACH Regulation

DINITROL PVC PA 283 O2

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

1.1. Product identifier

DINITROL PVC PA 283 O2

UFI: N239-T8SR-Y00C-3785

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

Use of the substance/mixture

Barrier (Sealant)

Uses advised against

No further relevant information available.

1.3. Details of the supplier of the safety data sheet

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	

1.4. Emergency telephone number:

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Skin Irrit. 2; H315
Eye Dam. 1; H318
Skin Sens. 1; H317
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

Calcium oxide
4,4'-Methylen-diphenyldiglycidylether

Signal word: Danger

Pictograms:

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P362+P364 Take off contaminated clothing and wash it before reuse.

Special labelling of certain mixtures

EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breathe dust. Restricted to professional users.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:

Hazard statements

H317-H318

Precautionary statements

P261-P305+P351+P338-P310-P362+P364

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)			
1305-78-8	Calcium oxide			15 - < 20 %
	215-138-9		01-2119475325-36	
	Skin Irrit. 2, Eye Dam. 1, STOT SE 3; H315 H318 H335			
1314-13-2	zinc oxide			1 - < 5 %
	215-222-5	030-013-00-7	01-2119463881-32	
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410			
1675-54-3	4,4'-Methylen-diphenyldiglycidylether			1 - < 5 %
	216-823-5	603-073-00-2	01-2119456619-26	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411			
13463-67-7	titanium dioxide			1 - < 5 %
	236-675-5	022-006-00-2	01-2119489379-17	
	Carc. 2; H351			

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		
1314-13-2	215-222-5	zinc oxide	1 - < 5 %
	inhalation: LC50 = > 2500 mg/l (dusts or mists); oral: LD50 = > 7950 mg/kg Aquatic Acute 1; H400: M=1 Aquatic Chronic 1; H410: M=1		
1675-54-3	216-823-5	4,4'-Methylen-diphenyldiglycidylether	1 - < 5 %
	dermal: LD50 = 23000 mg/kg; oral: LD50 = > 15000 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100		
13463-67-7	236-675-5	titanium dioxide	1 - < 5 %
	dermal: LD50 = > 10000 mg/kg; oral: LD50 = > 20000 mg/kg		

Further Information

Hydrocarbons meet the requirements for not being classified as carcinogenic (<0,1% benzene alt<3% (w/w) DMSO extract (IP 346)).
The homogeneous mixing of this product is controlled by continuous physical tests. Formerly dusty raw materials are completely integrated into the liquid/pasty mass. Possible AGW-values for solid substances are therefore not given, as there is no longer any risk of inhalation of these substances (when handling this mixture).

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.

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 further relevant 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 (CO2), Extinguishing powder, Water fog.
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

No further relevant information available.

5.3. Advice for firefighters

No further relevant information available.

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 to enter into surface water or drains. 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.

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 protection against fire and explosion

No special measures are necessary.

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

No special measures are necessary.

Hints on joint storage

Not required.

Further information on storage conditions

Keep container tightly closed in a cool, well-ventilated place.

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/m³	fibres/ml	Category	Origin
1305-78-8	Calcium oxide	-	2		TWA (8 h)	WEL
9002-86-2	Polyvinyl chloride, respirable dust	-	4		TWA (8 h)	WEL
13463-67-7	Titanium dioxide, respirable	-	4		TWA (8 h)	WEL

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
1305-78-8	Calcium oxide		
Worker DNEL, long-term	inhalation	local	1 mg/m³
Worker DNEL, acute	inhalation	local	4 mg/m³
Consumer DNEL, long-term	inhalation	local	1 mg/m³
Consumer DNEL, acute	inhalation	local	4 mg/m³
1314-13-2	zinc oxide		
Worker DNEL, long-term	inhalation	systemic	5 mg/m³
Worker DNEL, long-term	inhalation	local	0,5 mg/m³
Worker DNEL, long-term	dermal	systemic	83 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	2,5 mg/m³
Consumer DNEL, long-term	dermal	systemic	83 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,83 mg/kg bw/day
,			
1675-54-3	4,4'-Methylen-diphenyldiglycidylether		
Consumer DNEL, long-term	dermal	systemic	3,6 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,75 mg/m³
Consumer DNEL, long-term	oral	systemic	0,75 mg/kg bw/day
Worker DNEL, acute	dermal	systemic	8,3 mg/kg bw/day
Worker DNEL, acute	inhalation	systemic	12,3 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
1305-78-8	Calcium oxide	
Freshwater		0,37 mg/l
Marine water		0,24 mg/l
Micro-organisms in sewage treatment plants (STP)		2,27 mg/l
Soil		817,4 mg/kg
1314-13-2	zinc oxide	
Freshwater		0,0206 mg/l
Marine water		0,0061 mg/l
Freshwater sediment		117,8 mg/kg
Marine sediment		56,5 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,100 mg/l
Soil		35,6 mg/kg
1675-54-3	4,4'-Methylen-diphenyldiglycidylether	
Freshwater sediment		0,5 mg/kg
Marine sediment		0,5 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l

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

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.
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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	pasty	
Colour:	grey	
Odour:	characteristic	
Odour threshold:	not determined	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		not determined
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		< 250 °C
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value:		not applicable
Viscosity / kinematic:		not applicable
Water solubility:		Immiscible
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		not applicable
Density (at 20 °C):		1,54 g/cm³
Relative vapour density:		not determined
Particle characteristics:		not applicable

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

not determined

Sustaining combustion:	No data available

Oxidizing properties

not determined

Other safety characteristics

Softening point:	not determined
Viscosity / dynamic: (at 20 °C)	21000 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

No further relevant information available.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

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.

ATEmix calculated

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1314-13-2	zinc oxide				
	oral	LD50 > 7950 mg/kg	Rat		
	inhalation (4 h) dust/mist	LC50 > 2500 mg/l	Rat		
1675-54-3	4,4'-Methylen-diphenyldiglycidylether				
	oral	LD50 > 15000 mg/kg	Rat		
	dermal	LD50 23000 mg/kg	Rabbit		
13463-67-7	titanium dioxide				
	oral	LD50 > 20000 mg/kg	Rat		
	dermal	LD50 > 10000 mg/kg	Rabbit		

Irritation and corrosivity

Causes skin irritation.

Causes serious eye damage.

Sensitising effects

May cause an allergic skin reaction. (4,4'-Methylen-diphenyldiglycidylether)

Carcinogenic/mutagenic/toxic effects for reproduction

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.

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

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
1314-13-2	zinc oxide					
	Acute fish toxicity	LC50 1120 mg/l	96 h	fish	GESTIS	
	Acute crustacea toxicity	EC50 12,3 mg/l	48 h		GESTIS	

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.

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

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

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other 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 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide; 4,4'-Methylen-diphenyldiglycidylether)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide; 4,4'-Methylen-diphenyldiglycidylether)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Classification code:	M6
Special Provisions:	274 335 375 601
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 3082
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Special Provisions:	274 335 969
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 3082

14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Special Provisions:	A97 A158 A197 A215
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y964
Excepted quantity:	E1
IATA-packing instructions - Passenger:	964
IATA-max. quantity - Passenger:	450 L
IATA-packing instructions - Cargo:	964
IATA-max. quantity - Cargo:	450 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

14.6. Special precautions for user

Warning: Hazardous ingredients
(zinc oxide; 4,4'-Methylen-diphenyldiglycidylether)

14.7. Maritime transport in bulk according to IMO instruments

not applicable

Other applicable information

Hazchem code: •3Z

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 75

Directive 2004/42/EC on VOC in paints and varnishes:	0,00 % 0,00 g/l
Information according to Directive 2012/18/EU (SEVESO III):	E2 Hazardous to the Aquatic Environment

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

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):	2 - obviously 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): 2,14,15.

Abbreviations and acronyms

Skin Irrit: Skin irritation
Eye Dam: Eye damage
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation
Carc: Carcinogenicity
STOT SE: Specific target organ toxicity - single exposure
Aquatic Acute: Acute aquatic hazard
Aquatic Chronic: Chronic aquatic hazard
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
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH212	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

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.

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