

**DIELECTRIC VARNISH-003 - ECV003**



**SAFETY DATA SHEET**

(REACH regulation (EC) n° 1907/2006 - n° 2020/878)

**SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1. Product identifier**

Product name : DIELECTRIC VARNISH-003  
Product code : ECV003.  
UFI : 93Q5-Y0VW-3004-TJ00

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

UV curing varnish

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

Registered company name : VFP INK TECHNOLOGIES.  
Address : ZI du VERMEILLET route de Montpellier.30380.Saint Christol lez Alès.FRANCE.  
Telephone : +334 6660 9898. Fax : +334 6660 8725.  
qhse@vfp-ink.com  
www.vfp-ink.com

**1.4. Emergency telephone number : +33(0)1 4542 5959..**

Association/Organisation : .

**SECTION 2 : HAZARDS IDENTIFICATION**

**2.1. Classification of the substance or mixture**

**In compliance with EC regulation No. 1272/2008 and its amendments.**

Skin irritation, Category 2 (Skin Irrit. 2, H315).  
Eye irritation, Category 2 (Eye Irrit. 2, H319).  
Skin sensitisation, Category 1 (Skin Sens. 1, H317).  
Specific target organ toxicity (single exposure), Category 3 (STOT SE 3, H335).  
Hazardous to the aquatic environment - Acute hazard, Category 1 (Aquatic Acute 1, H400).  
Hazardous to the aquatic environment - Chronic hazard, Category 2 (Aquatic Chronic 2, H411).  
This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

**2.2. Label elements**

**In compliance with EC regulation No. 1272/2008 and its amendments.**

Hazard pictograms :



GHS09



GHS07

Signal Word :

WARNING

Product identifiers :

EC 280-51-4	ISOBORNYLACRYLAT
CAS 67906-98-3	1,6-HEXANEDIOL DIACRYLATE , 2- AMINOETHANOL POLYMERE
015-189-00-5	PHENYL BIS(2,4,6-TRIMETHYLBENZOYL)-PHOSPHINE OXIDE
EC 235-921-9	HEXAMETHYLENE DIACRYLATE
607-109-00-8	HEXAMETHYLENE DIACRYLATE

Hazard statements :

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

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H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements - Prevention :	
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/ ...
Precautionary statements - Response :	
P302 + P352	IF ON SKIN: Wash with plenty of water/...
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see ... on this label).
P391	Collect spillage.
Precautionary statements - Storage :	
P405	Store locked up.
Precautionary statements - Disposal :	
P501	Dispose of contents/container to ...

**2.3. Other hazards**

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC)  $\geq 0.1\%$  published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table>

The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

The mixture does not contain substances  $\geq 0.1\%$  with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.

**SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2. Mixtures**

**Composition :**

Identification	Classification (EC) 1272/2008	Note	%
CAS: 5888-33-5 EC: 280-51-4  ISOBORNYLACRYLAT	GHS07, GHS09 Wng Skin Irrit. 2, H315 Skin Sens. 1B, H317 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 2, H411 Aquatic Acute 1, H400 M Acute = 1		50 $\leq$ x % < 100
CAS: 1317-65-3 EC: 215-279-6  CARBONATE DE CALCIUM		[1]	2.5 $\leq$ x % < 10
CAS: 67906-98-3  1,6-HEXANEDIOL DIACRYLATE , 2-AMINOETHANOL POLYMERE	GHS07 Wng Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319		0 $\leq$ x % < 2.5
INDEX: 015-189-00-5 CAS: 162881-26-7 EC: 423-340-5  PHENYL BIS(2,4,6-TRIMETHYLBENZOYL)-PHOSPHINE OXIDE	GHS07 Wng Skin Sens. 1A, H317 Aquatic Chronic 4, H413		0 $\leq$ x % < 2.5
CAS: 13048-33-4 EC: 235-921-9  HEXAMETHYLENE DIACRYLATE	GHS07, GHS09 Wng Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Aquatic Chronic 2, H411 Aquatic Acute 1, H400 M Acute = 1		0 $\leq$ x % < 2.5

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CAS: 79-92-5 EC: 201-234-8  CAMPHENE	GHS07, GHS09, GHS02 Wng Flam. Sol. 2, H228 Eye Irrit. 2, H319 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		0 <= x % < 2.5
CAS: 508-32-7 EC: 227-561-6  ACRYLATE DE EXO-1,7,7-TRIMÉTHYLBICYCLO[2.2.1]HEP T-2-YLE	GHS07, GHS09 Wng Eye Irrit. 2, H319 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		0 <= x % < 2.5
INDEX: 607-109-00-8 CAS: 13048-33-4 EC: 235-921-9  HEXAMETHYLENE DIACRYLATE	GHS07 Wng Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317		0 <= x % < 2.5
CAS: 128-37-0 EC: 204-881-4 REACH: 01-2119565113-46  DITERT BUTYL MÉTHYLPHÉNOL	GHS09 Wng Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1	[1]	0 <= x % < 2.5

**Information on ingredients :**

(Full text of H-phrases: see section 16)

[1] Substance for which maximum workplace exposure limits are available.

**SECTION 4 : FIRST AID MEASURES**

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

**4.1. description of first aid measures**

**In the event of exposure by inhalation :**

In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest.

If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary.

If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

**In the event of splashes or contact with eyes :**

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

If there is any redness, pain or visual impairment, consult an ophthalmologist.

**In the event of splashes or contact with skin :**

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

In the event of an allergic reaction, seek medical attention.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

**In the event of swallowing :**

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.

Keep the person exposed at rest. Do not force vomiting.

Seek medical attention immediately, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

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

No data available.

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

No data available.

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**SECTION 5 : FIREFIGHTING MEASURES**

Non-flammable.

**5.1. Extinguishing media**

**Suitable methods of extinction**

In the event of a fire, use :

- sprayed water or water mist
- foam
- multipurpose ABC powder
- BC powder
- carbon dioxide (CO<sub>2</sub>)

**Unsuitable methods of extinction**

In the event of a fire, do not use :

- water jet

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

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO<sub>2</sub>)

**5.3. Advice for firefighters**

No data available.

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**SECTION 6 : ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions, protective equipment and emergency procedures**

Consult the safety measures listed under headings 7 and 8.

**For non first aid worker**

Avoid inhaling the vapors.

Avoid any contact with the skin and eyes.

If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

**For first aid worker**

First aid workers will be equipped with suitable personal protective equipment (See section 8).

**6.2. Environmental precautions**

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

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

Clean preferably with a detergent, do not use solvents.

**6.4. Reference to other sections**

No data available.

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**SECTION 7 : HANDLING AND STORAGE**

Requirements relating to storage premises apply to all facilities where the mixture is handled.

Individuals with a history of skin sensitisation should not, under any circumstance, handle this mixture.

**7.1. Precautions for safe handling**

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Ensure that there is adequate ventilation, especially in confined areas.

**Fire prevention :**

Handle in well-ventilated areas.

Prevent access by unauthorised personnel.

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**Recommended equipment and procedures :**

For personal protection, see section 8.  
 Observe precautions stated on label and also industrial safety regulations.  
 Avoid inhaling vapors. Carry out any industrial operation which may give rise to this in a sealed apparatus.  
 Provide vapor extraction at the emission source and also general ventilation of the premises.  
 Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.  
 In all cases, recover emissions at source.  
 Avoid skin and eye contact with this mixture.  
 Packages which have been opened must be reclosed carefully and stored in an upright position.

**Prohibited equipment and procedures :**

No smoking, eating or drinking in areas where the mixture is used.

**7.2. Conditions for safe storage, including any incompatibilities**

No data available.

**Storage**

Keep the container tightly closed in a dry, well-ventilated place.  
 The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

**Packaging**

Always keep in packaging made of an identical material to the original.

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

No data available.

**SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

**Occupational exposure limits :**

- France (INRS - Outils 65 / 2021-1849, 2021-1763, decree of 09/12/2021) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
1317-65-3	-	10	-	-	-	-
128-37-0	-	10	-	-	-	-

- UK / WEL (Workplace exposure limits, EH40/2005, Fourth Edition 2020) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
1317-65-3	4 mg/m³				
128-37-0	10 mg/m³				

**8.2. Exposure controls**

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

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.  
 Store personal protective equipment in a clean place, away from the work area.  
 Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

**- Eye / face protection**

Avoid contact with eyes.  
 Use eye protectors designed to protect against liquid splashes  
 Before handling, wear safety goggles with protective sides accordance with standard EN166.  
 In the event of high danger, protect the face with a face shield.  
 Prescription glasses are not considered as protection.  
 Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.  
 Provide eyewash stations in facilities where the product is handled constantly.

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**- Hand protection**

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN ISO 374-1.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- PVA (Polyvinyl alcohol)

**- Body protection**

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605/A1 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034/A1 to prevent skin contact.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

**- Respiratory protection**

Avoid inhaling vapors.

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :

- A1 (Brown)

**SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES**

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

**Physical state**

Physical state : Viscous liquid.

**Colour**

Unspecified

**Odour**

Odour threshold : Not stated.

**Melting point**

Melting point/melting range : Not specified.

**Freezing point**

Freezing point / Freezing range : Not stated.

**Boiling point or initial boiling point and boiling range**

Boiling point/boiling range : Not specified.

**Flammability**

Flammability (solid, gas) : Not stated.

**Lower and upper explosion limit**

Explosive properties, lower explosivity limit (%) Not stated.

:

Explosive properties, upper explosivity limit (%) Not stated.

:

**Flash point**

Flash Point Interval : FP > 100°C.

**Auto-ignition temperature**

Self-ignition temperature : Not specified.

**Decomposition temperature**

Decomposition point/decomposition range : Not specified.

**pH**

pH : Not relevant.

pH (aqueous solution) : Not stated.



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**Kinematic viscosity**

Viscosity : Not stated.

**Solubility**

Water solubility : Insoluble.

Fat solubility : Not stated.

**Partition coefficient n-octanol/water (log value)**

Partition coefficient: n-octanol/water : Not stated.

**Vapour pressure**

Vapour pressure (50°C) : Below 110 kPa (1.10 bar).

**Density and/or relative density**

Density : > 1

**Relative vapour density**

Vapour density : Not stated.

**9.2. Other information**

No data available.

**9.2.1. Information with regard to physical hazard classes**

No data available.

**9.2.2. Other safety characteristics**

No data available.

**SECTION 10 : STABILITY AND REACTIVITY**

**10.1. Reactivity**

No data available.

**10.2. Chemical stability**

This mixture is stable under the recommended handling and storage conditions in section 7.

**10.3. Possibility of hazardous reactions**

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

**10.4. Conditions to avoid**

No data available.

**10.5. Incompatible materials**

No data available.

**10.6. Hazardous decomposition products**

The thermal decomposition may release/form :

- carbon monoxide (CO)

- carbon dioxide (CO<sub>2</sub>)

**SECTION 11 : TOXICOLOGICAL INFORMATION**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Exposure to vapours from solvents in the mixture in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system.

Symptoms produced will include headaches, numbness, dizziness, fatigue, muscular asthenia and, in extreme cases, loss of consciousness.

May cause irreversible damage to the skin; namely inflammation of the skin or the formation of erythema and eschar or oedema following exposure up to four hours.

Repeated or prolonged contact with the mixture may cause removal of natural oil from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

May have reversible effects on the eyes, such as eye irritation which is totally reversible by the end of observation at 21 days.

Splashes in the eyes may cause irritation and reversible damage

Respiratory tract irritation may occur, together with symptoms such as coughing, choking and breathing difficulties.

May cause an allergic reaction by skin contact.

**11.1.1. Substances**

No toxicological data available for the substances.

**11.1.2. Mixture**

No toxicological data available for the mixture.

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**11.2. Information on other hazards**

**SECTION 12 : ECOLOGICAL INFORMATION**

Very toxic to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

**12.1. Toxicity**

**12.1.2. Mixtures**

No aquatic toxicity data available for the mixture.

**12.2. Persistence and degradability**

No data available.

**12.3. Bioaccumulative potential**

No data available.

**12.4. Mobility in soil**

No data available.

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

No data available.

**12.6. Endocrine disrupting properties**

No data available.

**12.7. Other adverse effects**

No data available.

**SECTION 13 : DISPOSAL CONSIDERATIONS**

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

**13.1. Waste treatment methods**

Do not pour into drains or waterways.

**Waste :**

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

**Soiled packaging :**

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

**SECTION 14 : TRANSPORT INFORMATION**

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2023 - IMDG 2020 [40-20] - ICAO/IATA 2023 [64]).

**14.1. UN number or ID number**

3082

**14.2. UN proper shipping name**

UN3082=ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(isobornylacrylat)

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

- Classification :



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**14.4. Packing group**

III



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**14.5. Environmental hazards**

- Environmentally hazardous material :



**14.6. Special precautions for user**

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	9	M6	III	9	90	5 L	274 335 375 601	E1	3	-

Not subject to this regulation if Q <= 5 l / 5 kg (ADR 3.3.1 - DS 375)

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ	Stowage Handling	Segregation
	9	-	III	5 L	F-A, S-F	274 335 969	E1	Category A	-

Not subject to this regulation if Q <= 5 l / 5 kg (IMDG 3.3.1 - 2.10.2.7)

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	9	-	III	964	450 L	964	450 L	A97 A158 A197 A215	E1
	9	-	III	Y964	30 kg G	-	-	A97 A158 A197 A215	E1

Not subject to this regulation if Q <= 5 l / 5 kg (IATA 4.4.4 - DS A197)

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

Marine pollutant (IMDG 3.1.2.9):(isobornylacrylat)

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

No data available.

**SECTION 15: Regulatory information**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Classification and labelling information included in section 2:**

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2022/692 (ATP 18)

**Container information:**

No data available.

**Restrictions applied under Title VIII of Regulation (EC) No. 1907/2006 (REACH):**

The mixture does not contain any substance restricted under Annex XVII of Regulation (EC) No. 1907/2006 (REACH):  
<https://echa.europa.eu/substances-restricted-under-reach>.

**Explosives precursors :**

The mixture does not contain any substance subject to Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

**Particular provisions :**

No data available.

**15.2. Chemical safety assessment**

No data available.

**SECTION 16 : OTHER INFORMATION**

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

**Wording of the phrases mentioned in section 3 :**

H228

Flammable solid.

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H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
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.
H413	May cause long lasting harmful effects to aquatic life.

**Abbreviations and acronyms :**

REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.  
UFI : Unique formulation identifier.  
STEL : Short-term exposure limit  
TWA : Time Weighted Averages  
TMP : French Occupational Illness table  
TLV : Threshold Limit Value (exposure)  
AEV : Average Exposure Value.  
ADR : European agreement concerning the international carriage of dangerous goods by Road.  
IMDG : International Maritime Dangerous Goods.  
IATA : International Air Transport Association.  
ICAO : International Civil Aviation Organisation  
RID : Regulations concerning the International carriage of Dangerous goods by rail.  
WGK : Wassergefährdungsklasse (Water Hazard Class).  
GHS07 : Exclamation mark  
GHS09 : Environment  
PBT: Persistent, bioaccumulable and toxic.  
vPvB : Very persistent, very bioaccumulable.  
SVHC : Substances of very high concern.