

MATERIAL SAFETY DATA SHEET

according to Regulation (EU) No. 1907/2006

InnoSolve by Innofil3D BV

1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

Trade name : InnoSolve (water soluble filament)
 Chemical name : Polyvinyl Alcohol
 Chemical family : Thermoplastic Copolymer
 Use : Monofilament for 3D-printing
 Company : Innofil3D BV
 Street address : Eerste Bokslootweg 17
 Postal code and city : 7821 AT Emmen
 Country : The Netherlands
 Telephone number : +31 (0) 591 820 389

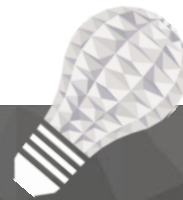
2. HAZARDS IDENTIFICATION

Potential health effects

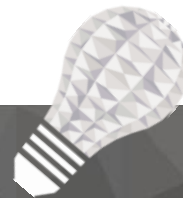
Eye contact : Solid or dust may cause irritation or corneal injury due to mechanical action.
 Skin contact : It is considered to be non-irritating to skin.
 Ingestion : Oral toxicity is believed to be low.
 Inhalation : Single exposure to dust is not likely to be hazardous.
 Fire : Under fire conditions, this polymer may decompose to form flammable and/or explosive mixture in air.
 Explosion : Dust explosion may occur, if a large amount of dust has released in air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Weight
Vinyl Alcohol Copolymer	Listed.	65.0% min.
Methanol	67-56-1	0.5% max.
Methyl Acetate	79-20-9	0.5% max.
Sodium Acetate	127-09-3	1.5% max.
Additive	Listed.	32.5% max.



4. FIRST-AID MEASURES	
Eye contact	: Irrigate with flowing water for more than 15 minutes.
Skin contact	: Wash off with flowing water.
Inhalation	: Rinse mouth with water. Remove to fresh air. Call a physician if needed.
Ingestion	: Rinse mouth with water. Call a physician, if large amounts are ingested.
5. FIRE-FIGHTING MEASURES	
Suitable extinguishing media	: Water, alcohol resistant foam, carbon dioxide and dry chemical.
Hazardous decomposition products	: Carbon dioxide, some carbon monoxide.
Under fire conditions	: Firemen should wear normal protective equipment (full bunker gear) and positive-pressure self-contained breathing apparatus.
6. ACCIDENTAL RELEASE MEASURES	
Personal precautions	: It becomes slippery, when polymer gets wet.
Environmental precautions	: Keep away from fire sources.
Methods for cleaning up	: Filament - Sweep up and discard. Aqueous solution - Collect the solution and treat with activated sludge.
7. HANDLING AND STORAGE	
Safe handling advice	: Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Avoid eye contact and breathing dust.
Storage conditions	: Store in a cool dry place. All apparatus should be grounded to avoid electrostatic fire sources.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION	
<u>Personal protective equipment</u>	
Eye protection	: Safety goggles are preferable.
Hand protection	: Protective gloves are preferable.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Filament.
Color	: Yellowish.
Physical state	: Solid at room temperature.
Odor	: None or slightly vinegary.
Melting point/range	: 150 - 230 °C
Flash point	: More than 70 °C (as powder)
Ignition point	: More than 400 °C (as powder)
Density	: 0.2 - 0.9 g/cc
Water solubility	: Soluble.

10. STABILITY AND REACTIVITY

Stability	: Apparent decomposition above 300 °C. Stable at room temperature.
Incompatibility	: Material can react with strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

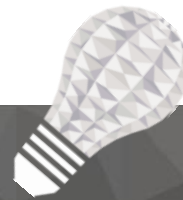
Eye irritation (rabbit)	: Minimal irritant (class 3 on a 1 to 8 scale) according to a modified Kay and Calandra classification system.
Skin irritation (rabbit)	: Mild irritant according to the Draize classification scheme
Skin sensitisation (rat)	: Non-sensitiser according to EU Directive 2001/59/EC
Acute toxicity (rainbow trout)	: LC50 of greater than 100 mg/l. (96 Hour). Correspondingly the No Observed Effect Concentration was 100 mg/l.

12. ECOLOGICAL INFORMATION

Vinyl Alcohol copolymer is degraded by bacteria, such as *Pseudomonas species*.

13. DISPOSAL CONSIDERATIONS

Follow all relevant regulations for disposal in your country.	
Filament	: Burn in an incinerator.
Aqueous solution	: Treat with activated sludge containing <i>Pseudomonas species</i> .



14. TRANSPORT INFORMATION

ADR/RID : Not restricted.
 IMO/IMDG : Not restricted.
 IATA-DGR : Not restricted.

15. REGULATORY INFORMATION

NOTICE: The information herein is presented in good faith and believed to be accurate as of the print date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. See other sections for health and safety information.

TSCA : All components of this filament are listed
 ELINCS : Vinyl Alcohol copolymer is listed.
 EINECS No. : Sodium Acetate 204-823-8 ; Methanol 20-659-6 ; Methyl Acetate 201-185-2.

16. OTHER INFORMATION

- The information in this Material Safety Data Sheet (MSDS) is mainly based on information used from the supplier of the raw materials which are used for production of the filaments.
- The information in this Material Safety Data Sheet (MSDS) is based on current knowledge and experience. No liability can be assumed for the accuracy and completeness of this information.
- Users should consider this information only as additional to other data gathered. Independent determination of suitability and completeness of information from all available sources is essential to ensure proper and safe use and disposal of these materials.
- The information in this MSDS applies for this specific material only. It therefore does not apply for its usage in combination with other materials or ways of processing.