



Safety Data Sheet

Issued: August 1, 2017
Revised: March 29, 2017

HydroFill Water-Soluble Support

SECTION 1, IDENTIFICATION

Product identifier used on the label; Product name: HYDROFILL Soluble Support Filament

Product Part Number(s): F66303, F31603, F66403, F31703, F66503, F31803

Manufacturer: Wolf & Associates, Inc. DBA Airwolf 3D

Address: 11208 Young River Avenue, Fountain Valley, CA 92708

Phone Number: +1 949-478-2933

Recommended Use: 3D printing filament

SECTION 2, HAZARD IDENTIFICATION

Physical Hazards: No data available.

Health Hazards: No data available.

Environmental Hazards: No data available.

Other Hazards: No data available.



Not a hazardous substance or mixture.
No hazardous ingredients known to company.

SECTION 3, COMPOSITION/INFORMATION ON INGREDIENTS

Compositions (Contents of the Product)

Chemical Name	CAS No.	Concentration/Concentration Ranges (wt %)
Proprietary polymer of: Butenediol-Vinyl Alcohol Copolymer	917249-64-0	>= 99.0
Poly(2ethyl-s-oxazoline)	25805-17-8	
Polypropylene and Additives:	9003-07-0	
Methanol	67-56-1	< 0.1
Methyl Acetate	79-20-9	< 0.1

SECTION 4, FIRST-AID MEASURES

General advice:

If you feel sick, seek medical advice (show the label where possible). Never give anything by mouth to an unconscious person.

Inhalation:

Less possibility to inhale.

Skin:

In case of irritation, flush with water.

Eyes:

Immediately flush eyes with plenty of water. Call a physician if irritation persists.

If Swallowed:

Rinse mouth with water. Do not induce vomiting and call a physician.

SECTION 5, FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Use water or dry chemical.

Unsuitable extinguishing media:

No data available.

Specific hazards arising from the chemical:

Hazardous gas possibly arises by fire (carbon monoxide, nitrogen oxides)..

Special protective equipment and precautions for fire-fighters:

Wear self-contained breathing apparatus for firefighting if necessary. Use appropriate protective equipment.

SECTION 6, ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:	Wear suitable protective equipment described in Section 8: Exposure controls/personal protection.
Methods and materials for containment and cleaning up:	Sweep up scattered materials or vacuum them using a vacuum cleaner so as not to cause dust then collect them into an empty container. This product becomes pasty with water, careful not to slip. If this product is an aqueous solution, after removing by adsorbing the adsorption material (sawdust, earth, sand, waste cloth, etc.), wipe well the rest with waste cloth, etc.

SECTION 7, HANDLING AND STORAGE

Advice on safe handling:	For personal protection see section 8. Avoid creating dust. Do not breathe dust. Avoid contact with skin and eyes.
Advice on protection against fire and explosion:	Normal measures for preventive fire protection.
Dust explosion class:	No data available
Requirements for storage areas and containers:	Keep containers tightly closed in a dry and cool place.
Further information on storage conditions:	Protect from moisture.
Advice on common storage:	Keep away from oxidising agents and strongly acid or alkaline materials. Keep away from food, drink and animal feedingstuffs.
Storage temperature:	<= 40 °C
Other data:	No decomposition if stored and applied as directed.

SECTION 8, EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:	No data available
Appropriate engineering controls:	Provide adequate ventilation.
Respiratory protection:	Unnecessary
Hand protection	Wear work gloves.
Eye protection	Unnecessary
Skin and body protection:	Apron

SECTION 9, PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Single fiber, light yellow.
Odor:	Slight acetic acid odor.
Odor threshold:	No data available.
pH:	5.0-7.0
Melting point/freezing point:	150 - 230°C
Initial boiling point and boiling range:	No data available.
Flash point:	> 240°C (Seta closed cup)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower flammability or explosive limits:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density	1.19-1.31 g/cm ³
Solubility (ies)	Water: soluble(emulsified), General solvent: insoluble or sparingly soluble
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature:	520°C (Reference information: As polyvinyl alcohol)
Decomposition temperature:	297°C (Measured with reference to ISO-7111(1987) in an air atmosphere)
Viscosity:	No data available.

SECTION 10, STABILITY AND REACTIVITY

Reactivity:	Stable under normal handling condition.
Chemical Stability:	Stable at room temperature. Decomposition becomes noticeable at high temperature (297°C).
Possibility of hazardous reactions:	Stability: No decomposition if stored and applied as directed. Dust can form an explosive mixture in air.
Conditions to avoid:	High-temperature and humidity.
Incompatible materials:	Keep away oxidizing agents, acids, and bases.
Hazardous decomposition products:	In case of fire, toxic decomposition products (carbon monoxide, nitrogen oxides, etc.) may be generated.

SECTION 11, TOXICOLOGICAL INFORMATION

Acute toxicity

Butenediol-Vinyl Alcohol copolymer	Acute oral toxicity: Rat LD50 > 2,000 mg/kg Acute inhalation toxicity: Acute toxicity estimate : > 20 mg/L Test atmosphere: vapour Exposure time: 4 h Method: Calculation method Acute dermal toxicity: Acute toxicity estimate : > 2,000 mg/kg Method: Calculation method Acute toxicity (other routes of administration): No data available
------------------------------------	--

Skin corrosion/irritation:

Additive	Additive includes less than 0.2% the ingredient which is classified as Skin corrosion/irritation category 1A -1C.
----------	---

Serious eye damage/eye irritation:

Additive	Additive includes less than 0.2% the ingredient which is classified as Serious eye damage/eye irritation category 1.
Methyl acetate	Causes serious eye irritation Species: rabbit Severe eye irritation

Respiratory or skin sensitization:

Additive	Additive includes less than 0.2% the ingredient which is classified as Skin sensitization category 1.
Methanol	Test Method: Magnusson-Kligmanmaximization test Species: guinea pig Result: Does not cause skin sensitization.

Germ cell mutagenicity:

Genotoxicity in vitro:	
Butenediol-Vinyl Alcohol copolymer	Type: Ames test Result: Negative; Type: Chromosome aberration test in vitro Result: Negative
Genotoxicity in vivo:	No data available.

Carcinogenicity

IARC: Not Listed
NTP Report: Not Listed
OSHA: Not listed

Reproductive toxicity:

Methanol	Suspected of damaging fertility or the unborn child.
----------	--

Teratogenicity:

No data available.

STOT - single exposure:

Additive	Additive includes less than 0.2% the ingredient which is classified as STOT - single exposure category 1 and 2.
Methanol	Causes damage to organs. May cause drowsiness or dizziness.
Methyl acetate	Causes damage to organs. May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure:

Additive	Additive includes less than 0.2% the ingredient which is classified as STOT - repeated exposure category 1 and 2.
Methanol	Causes damage to organs through prolonged or repeated exposure.
Methyl acetate	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard:

No data available.

Neurological effects:

No data available.

Toxicology Assessment:

No data available.

SECTION 12, ECOLOGICAL INFORMATION

Ecotoxicity:

Information on product: Fish: Danio rerio, Short-term toxicity test on embryo and fish larval stage, 9d-NOEC = 200mg/L.
Crustacean: Ceriodaphnia dubia, Reproductive inhibition test, 6d-NOEC = 50 mg/L
Algae: Pseudokirchneriella subcapitata, Growth inhibition test, 72hr-NOEC = 200mg/L

Persistence and degradability:

Information on product: Note: Inherently biodegradable.
Information on ingredients: Butenediol-Vinyl Alcohol copolymer
Biodegraded by sludge containing such as Pseudomonas

Bioaccumulative potential:

Information on product: No data available.
Information on ingredients: Butenediol-Vinyl Alcohol copolymer
Not or low bioaccumulative.

Mobility in soil:

No data available.

Results of PBT and vPvB assessment:

No data available.

Other adverse effects:

This product does not contain the ingredients that are listed in the Annex to the Montreal Protocol.

SECTION 13, DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of waste in accordance with applicable local, regional, state, federal or international regulations and standards.

Do not exceed 1mg/L in a river into which waste liquid flows when it is disposed of from a drain as water solution.

Also, it should be diluted with water by at least 20 times when disposed of. It can be disposed of as water solution in a day with maximum 2kg as itself.

SECTION 14, TRANSPORT INFORMATION

UN number:	Not applicable.
UN Proper Shipping Name:	Non-regulated material.
Hazardous Class number and Description:	Not applicable.
Packing Group:	Not applicable.
Environmental Hazards:	Not applicable.
Transport in bulk according to Annex II of MARPOL 73/78 and IBC code:	Not applicable.

Special Precautions for User):

When transporting, avoid direct sunlight. Confirm no leakage to containers. When loading, prevent containers from falling, dropping off or damaging. Take preventive measures of collapse.

SECTION 15, REGULATORY INFORMATION

OSHA Hazard Communication Standard 29CFR1910.1200:	This material is not a "health hazard" or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 Hazard Communication Standard.
---	---

TSCA Inventory:	All components are listed in the TSCA Inventory
TSCA SNUR:	Not listed.

SARA Title III:	Section 302 (Extremely Hazardous Substances): Not listed. Section 304 (Hazardous Substances): Not listed. Section 313 (TRI Chemicals): Methanol (< 0.1%)
------------------------	--

Clean Air Act:	This product does not contain any substances regulated as hazardous air pollutants under Section 112 of the Clean Air Act.
-----------------------	--

Clean Water Act:	This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act.
-------------------------	---

SECTION 16, OTHER INFORMATION

References: ACGIH, American Conference of Governmental Industrial Hygienists (2015) TLVs and BEIs.

Disclaimer: This SDS has been prepared based on the best available information however, it may not be sufficient in some cases. It is user's responsibility to modify or update any contents in this SDS regarding information on hazardous properties and/or instruction for safe handling of the product when they become available. Precautionary measures in this SDS are only applicable for normal handling conditions and it is necessary to take appropriate additional measures to ensure safe handling which depend on your specific use conditions or situations.
