



Product Name: 3D-Fuel HydroSupportv2™  
Product Code: HydroSupportv2™

Revision Number: 01  
Revision Date: 09/08/2020

Print Date: 09/08/2020

# Material Safety Data Sheet

In accordance with 29 CFR 1910.1200, ANSI Z400.1-2004, and ISO 11014-1: 1994.

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Product Name:** 3D-Fuel HydroSupportv2™      **Product Code:** HydroSupportv2™

**Product Use:** A monofilament designed for 3D printing

**Supplier:** 3DomFuel Inc., 2222 7th Ave N, Fargo, ND, 58102 United States

**Customer Information Center:** (844) 333-3616 / [sales@3dfuel.com](mailto:sales@3dfuel.com)

**Emergency Telephone Numbers (24 hours a day):** (844) 333-3616

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

CAUTION! May cause eye/skin irritation. Burning produces obnoxious and toxic fumes. Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

**Appearance:** Translucent monofilament in its natural state.

**Color:** Clear / Translucent

**Physical State:** Solid

**Solid Odor:** Sweet

### Potential health effects

**Eye contact:** Contact with eyes may cause irritation.

**Skin Contact:** Substance may cause slight skin irritation.

**OSHA defined hazards:** Combustible dust.

**Ingestion:** Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

**Inhalation:** Inhalation of dust may cause shortness of breath, tightness of the chest, and a sore throat and cough. Low hazard for usual industrial or commercial handling.

**Target Organ Effects:** Not classified.

**Sensitization:** Not classified.

**Specific Hazards:** None known.

**Flammability:** Fine dust dispersed in air may ignite.

**Environmental Precautions:** Prevent dust accumulation to minimize explosion hazard. Keep away from heat/sparks/open flame/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Observe good industrial hygiene practices.

NFPA Rating: N/A      Health: N/A      Flamm: N/A  
Reactivity: N/A      Special: N/A

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %	CAS number	ACGIH Exposure Limits
Polyvinyl alcohol, partially saponified	> 94.8	25213-24-5	Not available
Methanol (Impurity)	< 1	67-56-1	Not available

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**All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Components not listed are either non-hazardous or are below reportable limits.**

Other Standards: This material can generate Particulates not Otherwise Classifiable (PNOC). The Occupational Safety and Health Administration (OSHA) PEL/TWA for PNOC is 15mg/m<sup>3</sup> for total dust and 5mg/nf for the respirable fraction. The American Conference of Governmental Industrial Hygienists (ACGIH) TLV/TWA for PNOC is 10mg/rrf for inhalable particulates and 3 mg/m<sup>3</sup> for respirable particulates.

#### 4. FIRST AID MEASURES

**Emergency Telephone Numbers (24 hours a day):** (844) 333-3616

**Eye Contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

**Skin Contact:** Rinse immediately with soap and water for at least 15 minutes. If skin irritation develops and persists, call a physician.

**Inhalation:** Move to fresh air. Call a physician immediately.

**Ingestion:** Rinse mouth. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Call a physician immediately.

**Notes to physician:** Treat symptomatically. Dusts may irritate the respiratory tract, skin and eyes.

#### 5. FIRE FIGHTING MEASURES

**Flammability:** Auto-ignition Temperature: Unknown

**Flammability Limits in Air:**

Flammable limits in air – lower (%): Not applicable

Flammable limits in air – upper (%): Not applicable

**Suitable Extinguishing Media:** Foam. Water fog. Carbon dioxide (CO<sub>2</sub>). Dry powder. Apply extinguishing media carefully to avoid creating airborne dust. Use fire extinguishing media appropriate for surrounding materials.

**Unsuitable Extinguishing Media:** Do not use a solid water stream as it may scatter and spread the fire.

**Special Protective Equipment and Precautions for Firefighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire Fighting Equipment/Instructions:** Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk.

**General Fire Hazards:** The product is not flammable. May form an explosive dust-air mixture but only if altered from its monofilament state. The product, if altered from its monofilament state, may form dust and can accumulate electrostatic charges, which may act as an electrical spark (ignition source). Use proper grounding procedures. However, it will burn if involved in a fire.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment, and Emergency Procedures:** Keep unnecessary personnel away. Avoid inhalation of dust and contact with skin and eyes. Use only non-sparking tools. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate protective equipment and clothing during clean-up.

**Environmental Precautions:** Avoid discharge into drains, water courses or onto the ground.

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**Methods and Materials for Containment and Cleaning up:** Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

## 7. HANDLING AND STORAGE

**Safe Handling Advice:** Minimize dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Explosion-proof general and local exhaust ventilation.

Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid inhalation of dust and contact with skin and eyes. Wash hands after handling.

**Storage:** Store in cool place. Keep at temperatures below 122F (50C). Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Methanol (Impurity) (CAS 67-56-1)	PEL	260 mg/m <sup>3</sup>
		200 ppm

### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Dust	TWA	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Dust	TWA	3 mg/m <sup>3</sup>	Respirable particles.
		10 mg/m <sup>3</sup>	Inhalable particles.
Methanol (Impurity) (CAS 67-56-1)	STEL	250 ppm	
		TWA	200 ppm

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**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
Methanol (Impurity) (CAS 67-56-1)	STEL	325 mg/m3
		250 ppm
	TWA	260 mg/m3
		200 ppm

**Biological limit values**

**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Methanol (Impurity) (CAS 67-56-1)	15 mg/1	Methanol	Urine	*

\* - For sampling details, please see the source document.

**Exposure guidelines**

**US - California OELs: Skin designation**

Methanol (Impurity) (CAS 67-56-1) Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**

Methanol (Impurity) (CAS 67-56-1) Skin designation applies.

**US - Tennessee OELs: Skin designation**

Methanol (Impurity) (CAS 67-56-1) Can be absorbed through the skin.

**US ACGIH Threshold Limit Values: Skin designation**

Methanol (Impurity) (CAS 67-56-1) Can be absorbed through the skin.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Methanol (Impurity) (CAS 67-56-1) Can be absorbed through the skin.

**Appropriate engineering controls:** Provide sufficient ventilation for operations causing dust formation. Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn.

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

Eye/face protection - Wear safety glasses with side shields (or goggles).

Hand protection - Wear protective gloves.

In full contact: Glove material: Nitrile rubber. Layer thickness: 0.12 mm. Breakthrough time: >=480 min.

In splash contact: Glove material: Nitrile rubber Layer thickness: 0.12 mm Breakthrough time: >=480 min.

Skin protection other - Wear suitable protective clothing.

Respiratory protection - In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter.

Thermal hazards - Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations - Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Clear, translucent

**Form:** Filament

**Physical State:** Solid

**pH:** Not applicable

**Vapor Pressure & Density:** Not applicable

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**Odor and Odor Threshold:** Not available

**Evaporation Rate:** Not applicable

**Boiling Point/Range:** Not applicable

**Flash Point, Auto-Ignition Temperature & Flammability:** Not applicable or available

**Decomposition Temperature:** Not available

**Melting Point/Range:** Not determined

**Water Solubility:** Soluble

**Solubility in other Solvents:** None known

**Partition coefficient (n-octanol/water):** No data available

**Viscosity:** Not applicable

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable under recommended storage conditions

**Reactivity:** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Possibility of Hazardous Reactions:** No dangerous reaction known under conditions of normal use.

**Conditions to Avoid:** Keep away from heat, sparks and open flame. Contact with incompatible materials. Minimize dust generation and accumulation.

**Material to Avoid:** Strong acids. Strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Principle Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Acute Toxicity:** Not expected to be acutely toxic

**Local Effects:** Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.

Prolonged inhalation may be harmful. Dust may irritate skin. Components of the product may be absorbed into the body through the skin. Dust may irritate the eyes. May cause discomfort if swallowed.

**Long Term Toxicity:** No data available.

**Specific Effects:** Dust may irritate throat and respiratory system and cause coughing. Direct contact with eyes may cause temporary irritation.

Methanol (Impurity) (CAS 67-56-1)

<b>Skin:</b>	LD50	dermal	rabbit	17100mg/kg
<b>Ingestion:</b>	LC50	inhalation	rat	128200 mg/m <sup>3</sup> , 4 hours
<b>Oral:</b>	LD50	oral	rat	1187 to 2769 mg/kg

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

**Serious eye damage/eye irritation:** Based on available data, the classification criteria are not met.

**Respiratory sensitization:** Due to partial or complete lack of data the classification is not possible.

**Skin sensitization:** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

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

**IARC Monographs. Overall Evaluation of Carcinogenicity:** Not listed.

**NTP Report on Carcinogens:** Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053):** Not listed.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - single exposure:** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - repeated exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Due to the physical form of the product it is not an aspiration hazard.

**Chronic effects:** Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

**Further information:** Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.

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## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

**Mobility in soil:** No data available

**Bioaccumulation Potential:** The product is not expected to bioaccumulate.

	Methanol (Impurity) (CAS 67-56-1)		
<b>Algae:</b>	EC50	algae	22000mg/l, 96 hours
<b>Crustacea:</b>	EC50	Daphnia magna	> 10000 mg/l, 48 hours
<b>Fish:</b>	LC50	Lepomis macrochirus	15400 mg/l, 96 hours

**Persistence and degradability:** Expected to be inherently biodegradable.

**Other adverse effects:** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. DISPOSAL CONSIDERATIONS

THE COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS SECTION 2 (Composition/Information on Ingredients).

**Disposal instructions:** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations:** Dispose in accordance with all applicable regulations.

**Hazardous waste code:** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from Residues/Unused Products:** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated Packaging:** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

**U.S. Department of Transportation (DOT):** Not regulated as dangerous goods.

**IMDG:** Not regulated as dangerous goods.

**ICAO/IATA:** Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable.

## 15. REGULATORY INFORMATION

(Not meant to be all inclusive – selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the print date shown above. However, now 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. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

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**US federal regulations:** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):** Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4):** Methanol (Impurity) (CAS 67-56-1) Listed.

SARA 304 Emergency release notification: Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053): Not listed.

Toxic Substances Control Act (TSCA)

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance: Not listed.

SARA 311/312 Hazardous chemical: Yes

Classified hazard categories: Combustible dust

SARA 313 (TRI reporting): Not regulated.

**Other federal regulations**

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Methanol (Impurity) (CAS 67-56-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Contains component(s) regulated under the Safe Drinking Water Act.

**US state regulations**

US. Massachusetts RTK - Substance List

Methanol (Impurity) (CAS 67-56-1)

US. New Jersey Worker and Community Right-to-Know Act

Methanol (Impurity) (CAS 67-56-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Methanol (Impurity) (CAS 67-56-1)

US. Rhode Island RTK

Methanol (Impurity) (CAS 67-56-1)

California Proposition 65

**WARNING:**

This product can expose you to Acetaldehyde, which is known to the State of California to cause cancer, and Methanol (Impurity), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Acetaldehyde (CAS 75-07-0) Listed: April 1, 1988

California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (Impurity) (CAS 67-56-1) Listed: March 16, 2012

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Methanol (Impurity) (CAS 67-56-1)

## 16. OTHER INFORMATION

**Label Information:** 3D-Fuel HydroSupportv2™

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**Reason for Revisions:** Not applicable

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**Recommended Restrictions:** None

**Prepared by:** 3DomFuel Inc.

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