

SAFETY DATA SHEET

According to JIS Z 7253:2012
Revision Date 05-Apr-2018
 Version 3

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	V-70
Product code	920-10503,926-10500,928-10509
CAS No	
Formula	C16H28N4O2
Manufacturer	FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-2029
Supplier	FUJIFILM Wako Chemicals USA Corporation 1600 Bellwood Rd. Richmond, VA 23237 Phone: (804) 714-1900
Emergency telephone number	CHEMTREC (800) 424-9300 contract # 24004
Recommended uses and restrictions on use	No information available

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture
 Self-reactive substances and mixtures

Type D

Pictograms**Signal word**

Danger

Hazard statements

H242 - Heating may cause a fire

Precautionary statements-(Prevention)

- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep/Store away from clothing/combustible materials
- Keep only in original container
- Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements-(Response)

- In case of fire: Use Water spray, fog or regular foam for extinction
- In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary statements-(Storage)

- Store in a well-ventilated place. Keep cool
- Store away from other materials

Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant

Others

Other hazards Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula C16H28N4O2

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS No.
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	90	308.42	(2)-1542	N/A	15545-97-8
Water	10	18.02	N/A	N/A	7732-18-5
Methanol	<0.1	32.04	(2)-201	N/A	67-56-1

Impurities and/or Additives : Not applicable

Section 4: FIRST AID MEASURES

Inhalation

Move to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Water, Foam

Unsuitable extinguishing media

Powder, Carbon Dioxide

Special extinguishing method

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Protection of fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary people access to the

involved area, for example, by using a rope. While working, wear appropriate protective equipment to avoid adhering to the skin, or inhaling the gas. Work from windward side. Avoid working positions downwind.

Environmental precautions

Be careful not to discharge to the environment without properly treating contaminated wastewater. See Section 12 for additional ecological information.

Methods and materials for containment and methods and materials for cleaning up

Sweep up and gather scattered particles, and collect in an empty airtight container.

Recovery, neutralization

No information available

Secondary disaster prevention measures

Properly label container with waste material from the other garbage. Store unsealed in a cool, dark place until processing. Use a secure tool that does not generate a spark.

Section 7: HANDLING AND STORAGE

Handling**Technical measures**

Use with local exhaust ventilation.

Precautions

Incompatible with strong acids, especially strong oxidizing agents (nitric acid, etc.). When handling, pay particular attention to static electricity ignition source, such as shock spark. Avoid long-term and repeated exposure. Avoid shock.

Safety handling precautions

Use personal protective equipment as required.

Storage**Safe storage conditions****Storage conditions**

Store away from sunlight in the freezer (Below -10 °C = 14°F). Internal pressure of the container is increased by nitrogen gas that is released by thermal decomposition. Do not keep the container sealed.

Safe packaging material

Polyethylene, Fiber drums, Can

Incompatible substances

Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide a safety shower facility, and hand-and eye-wash facility. And display their position clearly.

Exposure limits:

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Methanol 67-56-1	200ppm(260mg/m ³)	200ppm	TWA 200ppm(260mg/m ³) STEL 250ppm

Personal protective equipment**Respiratory protection**

Protective mask

Hand protection

Protective gloves

Eye protection

protective eyeglasses or chemical safety goggles

Skin and body protection

Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form**Color**

nearly white

Appearance	crystalline powder
Odor	characteristic odor
pH	No data available
Melting point/freezing point	50-96(dec.) °C
Boiling point, initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits	
Upper :	No data available
Lower :	No data available
Vapour pressure	No data available
Vapour density	No data available
Specific Gravity / Relative density	No data available
Solubilities	water : practically insoluble . dichloromethane : freely soluble . acetonitrile , N,N-Dimethylformamide : soluble . methanol , acetone , toluene : slightly soluble .
n-Octanol/water partition coefficient:(log Pow)	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	30(SADT) °C
Viscosity (coefficient of viscosity)	No data available
Dynamic viscosity	No data available

Section 10: STABILITY AND REACTIVITY

Stability

Stability	Stable under recommended storage conditions.
Reactivity	No data available

Hazardous reactions

Decompose at an accelerating pace and discharge nitrogen gas. May cause runaway reaction by heat or sunlight because of self-reactivity. Decompose gradually if stored it higher than -10°C.

Conditions to avoid

Extremes of temperature and direct sunlight

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

nitrogen gas

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	2028mg/kg(Mouse(male)), 2900mg/kg(V-70)(Mouse(female))	N/A	N/A
Methanol	1400 mg/kg (Human)	15800 mg/kg (Rabbit)	22500 ppm (Rat) 8 h

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas-source information
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Methanol	Based on the NITE GHS Classification results.	Based on the NITE GHS Classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation	Acute toxicity -inhalation dust-	Acute toxicity -inhalation mist-
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	vapor- source information	source information	source information
Methanol	Based on the NITE GHS Classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion irritation source information
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	Causes skin irritation.
Methanol	Based on the NITE GHS Classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage source information
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	Causes serious eye irritation
Methanol	Based on the NITE GHS Classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory, Skin sensitization source information
Methanol	Based on the NITE GHS Classification results.

Reproductive cell mutagenicity

Chemical Name	Mutagenic source information
Methanol	Based on the NITE GHS Classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Methanol	Based on the NITE GHS Classification results.

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Methanol	Based on the NITE GHS Classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	May cause respiratory irritation.
Methanol	Based on the NITE GHS Classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
Methanol	Based on the NITE GHS Classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Methanol	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Methanol	EC50:Chlorella 1000mg/L 96h	LC50:Bluegills 15400mg/L 96h LC50:Oncorhynchus mykiss =11200ppm 96h	LC50: Brown shrimp 1340 mg/L 96h EC50:Daphnia magna =5463 mg/L 48h

Other data

Chemical Name	Aquatic toxicity -Acute- source information	Aquatic toxicity -Chronic- source information
Methanol	Based on the NITE GHS Classification results.	Based on the NITE GHS classification results.

Persistence and degradability	No information available
Bioaccumulative potential	No information available
Mobility in soil	No information available
Hazard to the ozone layer	No information available
Mobility	

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID

UN number	UN3236
Proper shipping name:	Self-reactive solid type D, temperature controlled (2,2'-Azodi(4-methoxy-2,4-dimethylvaleronitrile))
UN classification	4.1
Subsidiary hazard class	
Packing group	
Marine pollutant	Not applicable

IMDG

UN number	UN3236
Proper shipping name:	Self-reactive solid type D, temperature controlled (2,2'-Azodi(4-methoxy-2,4-dimethylvaleronitrile))
UN classification	4.1
Subsidiary hazard class	
Packing group	
Marine pollutant (Sea)	Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

IATA

UN number	UN3236
Proper shipping name:	Self-reactive solid type D, temperature controlled (2,2'-Azodi(2,4-dimethyl-4-methoxyvaleronitrile))
UN classification	4.1
Subsidiary hazard class	
Packing group	
Environmentally Hazardous Substance	Not applicable

Section 15: REGULATORY INFORMATION

International Inventories

EINECS/ELINCS	Listed
TSCA	Listed

Japanese regulations

Fire Service Act	Category V, azo compounds, dangerous grade 2
Poisonous and Deleterious Substances Control Law	Deleterious Substances 3rd. Grade
Industrial Safety and Health Act	Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)
Regulations for the carriage and storage of dangerous goods in ship	Flammable Solids - Flammable Solids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law	Flammable Solids (Ordinance Art.194, MITL Notification for Air Transportation of

Marine Pollution Prevention Law	Explosives etc., Attached Table 1)
Pollutant Release and Transfer Register Law	Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y Not applicable
Water Pollution Control Act	Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating Wastewater Standards Art.1)
Air Pollution Control Law	Volatile Organic Compound, Specified Substances
Soil Contamination Control Law	Designated Hazardous Substances
Offensive Odor Control Law	Not applicable

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
<http://www.safe.nite.go.jp/japan/db.html>
IATA dangerous Goods Regulations
RTECS:Registry of Toxic Effects of Chemical Substances
etc

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
GHS Classification is according to JIS Z7252(2014). *JIS: Japanese Industrial Standards

End of Safety Data Sheet