SAFETY DATA SHEET

Vazo™ 52

Version	Revision Date:	SDS Number:	Date of last issue: 12/03/2020
11.0	03/19/2021	1326100-00042	Date of first issue: 02/27/2017

SECTION 1. IDENTIFICATION

Product name : Vazo™ 52

SDS-Identcode : 130000000404

Manufacturer or supplier's details

Company name of supplier : The Chemours Company FC, LLC

Address : 1007 Market Street
Wilmington, DE 19801 United States of America (USA)

Telephone : 1-844-773-CHEM (outside the U.S. 1-302-773-1000)

Emergency telephone : Medical emergency: 1-866-595-1473 (outside the U.S. 1-302-773-2000) ; Transport emergency: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

Recommended use of the chemical and restrictions on use

Recommended use : Intermediate

Restrictions on use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Self-reactive chemicals : Type D

Combustible dust

Skin sensitization : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H242 Heating may cause a fire.
May form combustible dust concentrations in air.
H317 May cause an allergic skin reaction.

Precautionary Statements :

Prevention:

P210 Keep away from heat, sparks, open flame and hot surfaces. - No smoking.
P220 Keep away from clothing and other combustible materials.

P234 Keep only in original container.
P261 Avoid breathing dust, fume, gas, mist, vapors or spray.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves, eye protection and face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical attention.
P363 Wash contaminated clothing before reuse.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P411 Store at temperatures not exceeding 10 °C/ 50 °F.
P420 Store away from other materials.

Disposal:

P501 Dispose of contents and container to an approved waste disposal plant.

Other hazards

Risk of explosion if heated under confinement.
Dust contact with the eyes can lead to mechanical irritation.
Contact with dust can cause mechanical irritation or drying of the skin.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Substance name : 2,2'-Azodi[2,4-Dimethylvaleronitrile]

CAS-No. : 4419-11-8

Components

Chemical name	CAS-No.	Concentration (% w/w)
2,2'-Azodi[2,4-Dimethylvaleronitrile]	4419-11-8	>= 90 - <= 100
2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile)	Not Assigned	>= 0.1 - < 1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact	:	In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	If in eyes, rinse well with water. Get medical attention if irritation develops and persists.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	Skin contact may provoke the following symptoms: Discomfort Itching Redness Swelling of tissue Eye contact may provoke the following symptoms Irritation tearing Redness Discomfort Ingestion may provoke the following symptoms: Gastrointestinal disturbance May cause an allergic skin reaction. Contact with dust can cause mechanical irritation or drying of the skin. Dust contact with the eyes can lead to mechanical irritation.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not use a solid water stream as it may scatter and spread fire. The product burns violently. Exposure to combustion products may be a hazard to health.
Hazardous combustion prod-	:	Nitrogen oxides (NOx)

ucts		Carbon oxides
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Clear spills immediately. Take any precaution to avoid mixing with combustibles. Soak up with inert absorbent material. Remove mechanically and with care (e.g. with clean polyethylene plastic shovel). Sweep up and shovel into suitable containers for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). 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. Isolate waste and do not reuse. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	Static electricity may accumulate and ignite suspended dust causing an explosion. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Local/Total ventilation	:	Use only with adequate ventilation. If advised by assessment of the local exposure potential, use

only in an area equipped with explosion-proof exhaust ventilation.

Advice on safe handling	:	Do not get on skin or clothing. Avoid breathing dust, fume, gas, mist, vapors or spray. Do not swallow. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Non-sparking tools should be used. Prevent pressure build-up Protect from contamination. Minimize dust generation and accumulation. Keep container closed when not in use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from clothing and other combustible materials. Take precautionary measures against static discharges. Keep only in original packaging. Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage	:	Keep in properly labeled containers. Store in original container. Keep in a dry, cool and well-ventilated place. Protect from sunlight. Adhere to recommended storage temperature. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.
Materials to avoid	:	Store away from other materials.
Recommended storage temperature	:	< 50 °F / < 10 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2,2'-Azodi[2,4-Dimethylvaleronitrile]	4419-11-8	TWA	5 mg/m³ (Cyanide)	OSHA Z-1
		C	5 mg/m³ (Cyanide)	ACGIH
		C	4.7 ppm 5 mg/m³ (Cyanide)	NIOSH REL
2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile)	Not Assigned	TWA	5 mg/m³ (Cyanide)	OSHA Z-1
		C	5 mg/m³	ACGIH

			(Cyanide)	
		C	4.7 ppm 5 mg/m³ (Cyanide)	NIOSH REL

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Hydrogen cyanide	74-90-8	ST	4.7 ppm 5 mg/m³	NIOSH REL
		TWA	10 ppm 11 mg/m³	OSHA Z-1
		C	4.7 ppm (Cyanide)	ACGIH
Carbon monoxide	630-08-0	TWA	25 ppm	ACGIH
		TWA	35 ppm 40 mg/m³	NIOSH REL
		C	200 ppm 229 mg/m³	NIOSH REL
		TWA	50 ppm 55 mg/m³	OSHA Z-1
Carbon dioxide	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		TWA	5,000 ppm 9,000 mg/m³	OSHA Z-1
		TWA	5,000 ppm 9,000 mg/m³	NIOSH REL
		ST	30,000 ppm 54,000 mg/m³	NIOSH REL

Engineering measures : Processing may form hazardous compounds (see section 10).
Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.
Apply measures to prevent dust explosions.
Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided

by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material	:	Chemical-resistant gloves
Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection	:	Wear the following personal protective equipment: Safety goggles
Skin and body protection	:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Hygiene measures	:	If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	solid
Color	:	white
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	7

Melting point/freezing point	:	> 122 °F / > 50 °C Do not attempt to verify melting point; decomposition can be violent.
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	0 (Butyl Acetate=1.0)
Flammability (solid, gas)	:	May form explosive dust-air mixture.
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	0.03 %(V)
Vapor pressure	:	Not applicable
Relative vapor density	:	Not applicable
Relative density	:	0.969
Bulk density	:	400 kg/m³
Solubility(ies) Water solubility	: :	 >= 0.00937 g/l (68 °F / 20 °C)
Partition coefficient: n-octanol/water	:	log Pow: 3.319 (68 °F / 20 °C)
Autoignition temperature	:	437 °F / 225 °C
Decomposition temperature	:	The product is a self-reactive substance or mixture classified as type D.
Self-Accelerating decomposition temperature (SADT)	:	77 °F / 25 °C
Viscosity Viscosity, kinematic	: :	 Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Heating may cause a fire.
Chemical stability	:	Follow precautionary advice and avoid incompatible materials and conditions
Possibility of hazardous reactions	:	May form explosive dust-air mixture. Oxidizing material can cause a reaction. Hazardous decomposition products will be formed at elevated temperatures. May explode under confinement.
Conditions to avoid	:	Heat, flames and sparks. Protect from contamination. Avoid dust formation. Temperatures greater than recommended storage temperature. Contact with incompatible substances can cause decomposition at or below SADT.
Incompatible materials	:	Oxidizing agents Avoid impurities (e.g. rust, dust, ash), risk of decomposition. Flammable materials

Hazardous decomposition products

Thermal decomposition	:	Hydrogen cyanide Nitrogen Carbon monoxide Carbon dioxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Acute oral toxicity	:	LD50 (Mouse): > 6,000 mg/kg Method: Expert judgment
Acute inhalation toxicity	:	Approximate Lethal Concentration (Rat): 9.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhala-

tion toxicity

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Acute oral toxicity	:	LD50 (Mouse): > 6,000 mg/kg Method: Expert judgment Remarks: Based on data from similar materials
Acute inhalation toxicity	:	Approximate Lethal Concentration (Rat): 9.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity

Skin corrosion/irritation

Not classified based on available information.

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Species	:	Tissue Culture
Method	:	OECD Test Guideline 439
Result	:	No skin irritation

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Species	:	Tissue Culture
Method	:	OECD Test Guideline 439
Result	:	No skin irritation
Remarks	:	Based on data from similar materials

Serious eye damage/eye irritation

Not classified based on available information.

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Species	:	Bovine cornea
Result	:	No eye irritation
Method	:	OECD Test Guideline 437

Species	:	Not tested on animals
Result	:	No eye irritation
Method	:	OECD Test Guideline 492

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Species	:	Bovine cornea
Result	:	No eye irritation
Method	:	OECD Test Guideline 437
Remarks	:	Based on data from similar materials

Species	:	Not tested on animals
Result	:	No eye irritation

Method	:	OECD Test Guideline 492
Remarks	:	Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Test Type	:	Direct Peptide Reactivity Assay (DPRA)
Routes of exposure	:	Skin contact
Species	:	Not tested on animals
Method	:	OECD Test Guideline 442C
Result	:	positive

Test Type	:	KeratinoSens assay
Routes of exposure	:	Skin contact
Species	:	Tissue Culture
Method	:	OECD Test Guideline 442D
Result	:	positive

Assessment	:	Probability or evidence of skin sensitization in humans

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Test Type	:	Direct Peptide Reactivity Assay (DPRA)
Routes of exposure	:	Skin contact
Species	:	Not tested on animals
Method	:	OECD Test Guideline 442C
Result	:	positive
Remarks	:	Based on data from similar materials

Test Type	:	KeratinoSens assay
Routes of exposure	:	Skin contact
Species	:	Tissue Culture
Method	:	OECD Test Guideline 442D
Result	:	positive
Remarks	:	Based on data from similar materials

Assessment	:	Probability or evidence of skin sensitization in humans

Germ cell mutagenicity

Not classified based on available information.

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative

Test Type: in vitro micronucleus test
Method: OECD Test Guideline 487
Result: negative

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Test Type: in vitro micronucleus test
Method: OECD Test Guideline 487
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Not classified based on available information.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Effects on fetal development : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative Remarks: Based on data from similar materials
Effects on fetal development	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative Remarks: Based on data from similar materials
Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Routes of exposure	:	Ingestion
Assessment	:	No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Routes of exposure	:	Ingestion
Assessment	:	No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Repeated dose toxicity

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Species	:	Rat, male and female
NOAEL	:	250 mg/kg
LOAEL	:	> 250 mg/kg
Application Route	:	Ingestion
Exposure time	:	8 Weeks
Method	:	OECD Test Guideline 422

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Species	:	Rat, male and female
NOAEL	:	250 mg/kg
LOAEL	:	> 250 mg/kg
Application Route	:	Ingestion
Exposure time	:	8 Weeks
Method	:	OECD Test Guideline 422
Remarks	:	Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

No aspiration toxicity classification

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

No aspiration toxicity classification

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 2.11 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.17 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 1.48 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Desmodesmus subspicatus (green algae)): 1.19 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 2.11 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.17 mg/l Exposure time: 48 h Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 1.48 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): 1.19 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Persistence and degradability

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301B

2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile):

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301B
Remarks: Based on data from similar materials

Bioaccumulative potential

Components:

2,2'-Azodi[2,4-Dimethylvaleronitrile]:

Partition coefficient: n-octanol/water : log Pow: 3.319 (77 °F / 25 °C)

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3236
Proper shipping name	:	SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED (2,2' -AZODI(2,4-DIMETHYL-VALERONITRILE))
Class	:	4.1
Packing group	:	Not assigned by regulation
Labels	:	4.1

IATA-DGR

Not permitted for transport

IMDG-Code

UN number	:	UN 3236
Proper shipping name	:	SELF-REACTIVE SOLID TYPE D, TEMPERATURE CONTROLLED (2,2'-AZODI(2,4-DIMETHYLVALERONITRILE)) (2,2'-Azodi[2,4-Dimethylvaleronitrile])
Class	:	4.1
Packing group	:	Not assigned by regulation
Labels	:	4.1
EmS Code	:	F-F, S-K
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 3236
Proper shipping name	:	Self-reactive solid type D, temperature controlled (2,2'-Azodi(2,4-dimethylvaleronitrile))
Class	:	4.1
Packing group	:	Not assigned by regulation
Labels	:	FLAMMABLE SOLID
ERG Code	:	150
Marine pollutant	:	yes(2,2'-Azodi[2,4-Dimethylvaleronitrile])

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Combustible dust
Self-reactive chemicals
Respiratory or skin sensitization

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

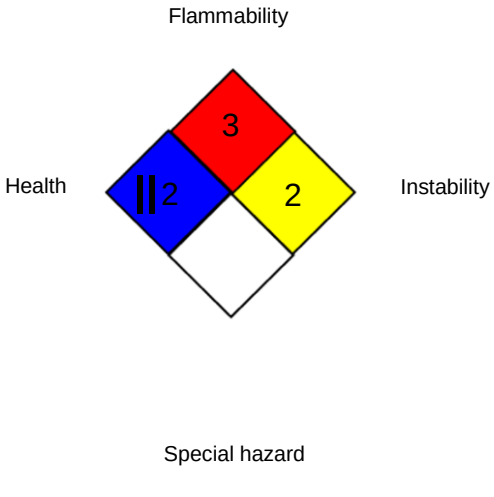
Pennsylvania Right To Know

2,2'-Azodi[2,4-Dimethylvaleronitrile]	4419-11-8
2-[2-(1-cyano-1-methylethyl)diazenyl]-2-(2,4-dimethylvaleronitrile)	Not Assigned
2-[2-(1-cyano-3-methylbutyl)diazenyl]-2-(2,4-dimethylvaleronitrile)	Not Assigned

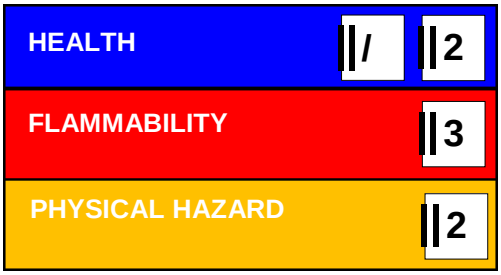
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / C	:	Ceiling limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
NIOSH REL / C	:	Ceiling value not be exceeded at any time.
OSHA Z-1 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
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Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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 is designed only as a guidance for

safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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