

SAFETY DATA SHEET



Vazo™ 88

Version	Revision Date:	SDS Number:	Date of last issue: 14.04.2023
6.6	12.01.2024	1636517-00017	Date of first issue: 05.05.2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Vazo™ 88

SDS-Identcode : 130000000407

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 : 55 5125 4907 in D.F. and metropolitan area - 800 737 5623
inside the Republic.

Emergency telephone : (ANIQ - SETIQ) 55 5559 1588 in CDMX and metropolitan
area; 800 002 1400 inside the Republic.

E-mail address : Infolatam@chemours.com

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

Self-reactive substances and mixtures : Type D

Specific target organ toxicity - single exposure : Category 3

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H242 Heating may cause a fire.
H335 May cause respiratory irritation.

Precautionary Statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234 Keep only in original container.

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P235 Keep cool.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

Storage:

P403 Store in a well-ventilated place.
P405 Store locked up.
P420 Store separately.

Disposal:

P501 Dispose of contents/ 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.
May form explosive dust-air mixture.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Substance name : 1,1'-Azodicyclohexanecarbonitrile
CAS-No. : 2094-98-6

Components

Chemical name	CAS-No.	Concentration (% w/w)
1,1'-Azodicyclohexanecarbonitrile	2094-98-6	≥ 90 - ≤ 100

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 : Wash with water and soap.
Get medical attention if symptoms occur.

In case of eye contact : If in eyes, rinse well with water.
Get medical attention if irritation develops and persists.

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|---|---|--|
| 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 | : | Eye contact may provoke the following symptoms
Irritation
Redness
Discomfort
Lachrymation
Ingestion may provoke the following symptoms:
Lethargy
Diarrhea
May cause respiratory irritation.
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. |
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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 products | : | Nitrogen oxides (NOx)
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. |

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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).
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 : If sufficient ventilation is unavailable, use with local exhaust 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 : Avoid breathing dust, fume, gas, mist, vapors or spray.
Do not swallow.
Avoid contact with eyes.
Avoid prolonged or repeated contact with skin.
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.
Keep container tightly closed.

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Protect from contamination.
Keep cool.
Already sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers.
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.

Do not breathe decomposition products.

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.
Wash contaminated clothing before re-use.

Conditions for safe storage : Keep in properly labeled containers.
Store locked up.
Keep tightly closed.
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.

Store in original container.

Materials to avoid : Store away from other materials.

Recommended storage temperature : < 50 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Hydrogen cyanide	74-90-8	VLE-P	4.7 ppm	NOM-010-STPS-2014
		C	4.7 ppm	ACGIH

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			(Cyanide)	
Carbon monoxide	630-08-0	VLE-PPT	25 ppm	NOM-010-STPS-2014
		TWA	25 ppm	ACGIH
Carbon dioxide	124-38-9	VLE-PPT	5,000 ppm	NOM-010-STPS-2014
		VLE-CT	30,000 ppm	NOM-010-STPS-2014
		TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH

Engineering measures : Processing may form hazardous compounds (see section 10).
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 sufficient ventilation is unavailable, use with local exhaust ventilation.
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 : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Self-contained breathing apparatus

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.

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Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: solid
Color	: white
Odor	: odorless
Odor Threshold	: No data available
pH	: 7
Melting point/freezing point	: 113.05 °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	: Not applicable
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	: 3 hPa (82 °C)
Relative vapor density	: Not applicable
Relative density	: 1.1 (20 °C)
Solubility(ies) Water solubility	: 0.00336 g/l
Partition coefficient: n-octanol/water	: log Pow: 3.3
Autoignition temperature	: 320 °C
Decomposition temperature	: The product is a self-reactive substance or mixture classified as type D.

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Self-Accelerating decomposition temperature (SADT) : 80 °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

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Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Components:

1,1'-Azodicyclohexanecarbonitrile:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Method: Expert judgment
Acute inhalation toxicity	: Approximate Lethal Concentration (Rat): > 8 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403

Skin corrosion/irritation

Not classified based on available information.

Components:

1,1'-Azodicyclohexanecarbonitrile:

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

Serious eye damage/eye irritation

Not classified based on available information.

Components:

1,1'-Azodicyclohexanecarbonitrile:

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

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

1,1'-Azodicyclohexanecarbonitrile:

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

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Routes of exposure	:	Skin contact
Species	:	Not tested on animals
Method	:	OECD Test Guideline 442D
Result	:	negative

Germ cell mutagenicity

Not classified based on available information.

Components:

1,1'-Azodicyclohexanecarbonitrile:

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

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

May cause respiratory irritation.

Components:

1,1'-Azodicyclohexanecarbonitrile:

Assessment	:	May cause respiratory irritation.
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STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Components:

1,1'-Azodicyclohexanecarbonitrile:

No aspiration toxicity classification

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

1,1'-Azodicyclohexanecarbonitrile:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 2.54 mg/l
		Exposure time: 48 h
		Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 1.95 mg/l
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Exposure time: 72 h
Method: OECD Test Guideline 201

EC10 (Desmodesmus subspicatus (green algae)): 0.95 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Persistence and degradability

Components:

1,1'-Azodicyclohexanecarbonitrile:

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

Bioaccumulative potential

Components:

1,1'-Azodicyclohexanecarbonitrile:

Partition coefficient: n- : log Pow: 3.36 (20 °C)
octanol/water

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not dispose of waste into sewer.

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 3226
Proper shipping name : SELF-REACTIVE SOLID TYPE D (1,1-AZODI(HEXAHYDROBENZONITRILE))
Class : 4.1
Packing group : Not assigned by regulation
Labels : 4.1
Environmentally hazardous : no

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IATA-DGR

UN/ID No. : UN 3226
Proper shipping name : Self-reactive solid type D (1,1'-Azodi (Hexahydrobenzonitrile))
Class : 4.1
Packing group : Not assigned by regulation
Labels : Flammable Solid, Keep Away From Heat
Packing instruction (cargo aircraft) : 459
Packing instruction (passenger aircraft) : 459

IMDG-Code

UN number : UN 3226
Proper shipping name : SELF-REACTIVE SOLID TYPE D (1,1-AZODI(HEXAHYDROBENZONITRILE)) (1,1-Azodi(hexahydrobenzonitrile))
Class : 4.1
Packing group : Not assigned by regulation
Labels : 4.1
EmS Code : F-J, S-G
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

NOM-002-SCT

UN number : UN 3226
Proper shipping name : SELF-REACTIVE SOLID TYPE D (1,1-AZODI(HEXAHYDROBENZONITRILE))
Class : 4.1
Packing group : Not assigned by regulation
Labels : 4.1

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

Safety, health and environmental regulations/legislation specific for the substance or mixture

Federal Law for the control of chemical precursors, essential chemical products and machinery for producing capsules, tablets and pills. : Not applicable

SECTION 16. OTHER INFORMATION

Revision Date : 12.01.2024
Date format : dd.mm.yyyy

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Before use read Chemours safety information.

For further information contact the local Chemours office or nominated distributors.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NOM-010-STPS-2014	:	Mexico. Norm NOM-010-STPS-2014 on Chemicals Polluting the Work Environment - Identification, Assessment and Control - Appendix 1 Occupational Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / C	:	Ceiling limit
NOM-010-STPS-2014 / VLE-	:	Time weighted average limit value
PPT	:	
NOM-010-STPS-2014 / VLE-	:	Short term exposure limit value
CT	:	
NOM-010-STPS-2014 / VLE-	:	Ceiling value
P	:	

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals 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; WHMIS - Workplace Hazardous Materials Information System

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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/>

The information is considered as correct, but not exhaustive, and will be used only as a guide, which is based in the current knowledge of the substance or mixture, and is applicable to proper safety precautions for the product.

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