

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Viton™ AL-276C fluoroelastomer

SDS-Identcode : 130000026453

Recommended use of the chemical and restrictions on use

Recommended use : Rubber products
Resin for moulding and/or extrusion

Restrictions on use : For industrial use only.
Do not use or resell Chemours™ materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless agreed to by Seller in a written agreement covering such use. For further information, please contact your Chemours representative.

Manufacturer or supplier's details

Company : Chemours Korea Inc.

Address : 12FL, Majestarcity Tower 1, 12, Seocho-daero 38-gil, Seocho-gu, Seoul 06655, Korea

Telephone : 82-2-2015-5000

Emergency telephone number : 080-880-0454

Telefax : 82-2-2015-5091

2. HAZARDS IDENTIFICATION

GHS Classification

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms : Not applicable

Signal word : Not applicable

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version 1.2	Revision Date: 2024/10/17	SDS Number (Internal): 11365170-00003	Date of last issue: 2024/07/03 Date of first issue: 2024/03/20
----------------	------------------------------	--	---

P273 Avoid release to the environment.

Disposal:

P501 Dispose of contents/ container according to waste-related laws

Other hazards which do not result in classification

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name	CAS-No.	Concentration (% w/w)
Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	No data available	Not Assigned	$\geq 1 - < 2.5$
Filler	Proprietary Ingredient	Proprietary Ingredient	$\geq 0.1 - < 1$
4,4'-(Hexafluoroisopropylidene)diphenol	No data available	1478-61-1	$\geq 0.3 - < 1$
Paraffin waxes and Hydrocarbon waxes	No data available	8002-74-2	$\geq 0.1 - < 1$

Alternative CAS Numbers for some regions

Chemical name	Alternative CAS Number(s)
Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	75768-65-9, 1478-61-1

4. FIRST AID MEASURES

In case of eye contact	: Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
In case of skin contact	: Wash with water and soap as a precaution. Get medical attention if symptoms occur.
If inhaled	: If inhaled, remove to fresh air.

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version 1.2	Revision Date: 2024/10/17	SDS Number (Internal): 11365170-00003	Date of last issue: 2024/07/03 Date of first issue: 2024/03/20
----------------	------------------------------	--	---

Get medical attention if symptoms occur.

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 : None known.

Protection of first-aiders : No special precautions are necessary for first aid responders.

Notes to physician : Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable and unsuitable extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : None known.

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Fluorine compounds

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 firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

Personal precautions, protective equipment and emergency procedures : 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 : Sweep up or vacuum up spillage and collect in suitable container for disposal.
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.

7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labelled containers.
Store in accordance with the particular national regulations.

Materials to avoid : No special restrictions on storage with other products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Filler	Proprietary Ingredient	TWA	0.5 mg/m3 (Barium)	KR OEL
		TWA (Inhalable particulate matter)	5 mg/m3	ACGIH

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

Paraffin waxes and Hydrocarbon waxes	8002-74-2	TWA (Fume)	2 mg/m3	KR OEL
		TWA (Fumes)	2 mg/m3	ACGIH

Other ingredients, which are listed in section 3 but not listed in this section, do not have established occupational exposure limit values.

Engineering measures : Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

Personal protective equipment. Among the following personal protective equipment, the PPEs which require safety certification need to be certified by KOSHA.

Respiratory protection : Use respiratory protection (gas mask) unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Combined particulates and acidic gas/vapour type

Eye protection : Wear the following personal protective equipment:
Safety glasses

Hand protection
Material : Nitrile rubber
Glove thickness : 0.38 mm
Wearing time : 480 min

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. 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. Breakthrough time is not determined for the product. Change gloves often!

Skin and body protection : Skin should be washed after contact.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : sheets

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version 1.2	Revision Date: 2024/10/17	SDS Number (Internal): 11365170-00003	Date of last issue: 2024/07/03 Date of first issue: 2024/03/20
----------------	------------------------------	--	---

Colour	:	white, off-white
Odour	:	odourless
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	Not applicable
Solubility(ies) Water solubility	:	insoluble
Relative vapour density	:	Not applicable
Density	:	1.77 g/cm ³
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version 1.2	Revision Date: 2024/10/17	SDS Number (Internal): 11365170-00003	Date of last issue: 2024/07/03 Date of first issue: 2024/03/20
----------------	------------------------------	--	---

Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle characteristics Particle size	:	No data available

10. STABILITY AND REACTIVITY

Chemical stability and possibility of hazardous reactions	:	Reactivity: Not classified as a reactivity hazard. Chemical stability: Stable under normal conditions. Possibility of hazardous reactions: None known.
Conditions to avoid	:	None known.
Incompatible materials	:	None.
Hazardous decomposition products	:	No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Skin contact Ingestion Eye contact
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Health hazard information

Acute toxicity

No data available

Components:

Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 425 Assessment: The substance or mixture has no acute oral toxicity
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Filler:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
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SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

4,4'-(Hexafluoroisopropylidene)diphenol:

Acute oral toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 423 Assessment: The substance or mixture has no acute oral toxicity
Acute dermal toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Paraffin waxes and Hydrocarbon waxes:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 420
Acute dermal toxicity	: LD50 (Rabbit): > 3,600 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

No data available

Components:

Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

Species	: Not tested on animals
Method	: OECD Test Guideline 439
Result	: No skin irritation

Filler:

Species	: reconstructed human epidermis (RhE)
Method	: OECD Test Guideline 439
Remarks	: Based on data from similar materials
Result	: No skin irritation

4,4'-(Hexafluoroisopropylidene)diphenol:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

Paraffin waxes and Hydrocarbon waxes:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

No data available

Product:

Result	:	No eye irritation
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Components:

Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

Species	:	In Vitro - Bovine
Result	:	No eye irritation
Method	:	OECD Test Guideline 437

Filler:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

4,4'-(Hexafluoroisopropylidene)diphenol:

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405

Paraffin waxes and Hydrocarbon waxes:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Respiratory or skin sensitisation

Respiratory sensitisation

No data available

Skin sensitisation

No data available

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

Components:

Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

Test Type	: Direct Peptide Reactivity Assay (DPRA)
Exposure routes	: Skin contact
Species	: Not tested on animals
Method	: OECD Test Guideline 442C
Result	: equivocal

Test Type	: KeratinoSens assay
Exposure routes	: Skin contact
Species	: Not tested on animals
Method	: OECD Test Guideline 442D
Result	: positive

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative
Remarks	: Based on data from similar materials

Assessment	: Does not cause skin sensitisation.
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Filler:

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Skin contact
Species	: Mouse
Method	: OECD Test Guideline 429
Result	: negative
Remarks	: Based on data from similar materials

4,4'-(Hexafluoroisopropylidene)diphenol:

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

Paraffin waxes and Hydrocarbon waxes:

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

Carcinogenicity

No data available

Components:

Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

No data available

Filler:

No data available

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	2 Years
Result	:	negative
Remarks	:	Based on data from similar materials

4,4'-(Hexafluoroisopropylidene)diphenol:

No data available

Paraffin waxes and Hydrocarbon waxes:

No data available

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	2 Years
Result	:	negative

Germ cell mutagenicity

No data available

Components:

Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

No data available

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471
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SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

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

Filler:

No data available

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

Test Type: Chromosome aberration test in vitro

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

4,4'-(Hexafluoroisopropylidene)diphenol:

No data available

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

Test Type: In vitro mammalian cell gene mutation test

Method: OPPTS 870.5300

Result: equivocal

Paraffin waxes and Hydrocarbon waxes:

No data available

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

Reproductive toxicity

No data available

Product:

Reproductive toxicity - Assessment : No toxicity to reproduction

Components:

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:

May damage fertility or the unborn child.

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: positive
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the 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 : Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

Filler:

No data available

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version 1.2	Revision Date: 2024/10/17	SDS Number (Internal): 11365170-00003	Date of last issue: 2024/07/03 Date of first issue: 2024/03/20
----------------	------------------------------	--	---

4,4'-(Hexafluoroisopropylidene)diphenol:

May damage fertility or the unborn child.

Effects on fertility	: Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: positive
Effects on foetal development	: Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative
Reproductive toxicity - Assessment	: Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

Paraffin waxes and Hydrocarbon waxes:

No data available

Effects on fertility	: Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
Effects on foetal development	: Test Type: Fertility/early embryonic development Species: Rat Application Route: Skin contact Result: negative Remarks: Based on data from similar materials

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Product:

Assessment	: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
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SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

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Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

Exposure routes	:	Ingestion
Target Organs	:	Seminal vesicle, Prostate
Assessment	:	Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

Filler:

Assessment	:	No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.
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4,4'-(Hexafluoroisopropylidene)diphenol:

Exposure routes	:	Ingestion
Target Organs	:	Prostate, Seminal vesicle
Assessment	:	Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

Paraffin waxes and Hydrocarbon waxes:

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

Repeated dose toxicity

Components:

Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

Species	:	Rat, male and female
NOAEL	:	10 mg/kg
LOAEL	:	100 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days
Method	:	OECD Test Guideline 407
Remarks	:	Based on data from similar materials

Filler:

Species	:	Rat
NOAEL	:	61.1 mg/kg

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

Application Route : Ingestion
Exposure time : 90 Days
Remarks : Based on data from similar materials

4,4'-(Hexafluoroisopropylidene)diphenol:

Species : Rat, male and female
NOAEL : 10 mg/kg
LOAEL : 30 mg/kg
Application Route : Ingestion
Exposure time : 28 Days
Method : OECD Test Guideline 407

Paraffin waxes and Hydrocarbon waxes:

Species : Rat
Application Route : Ingestion
Exposure time : 90 Days
Method : OECD Test Guideline 408

Aspiration toxicity

No data available

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks : According to data on similar materials, and from modeling assessment, the product is not considered to require classification as dangerous to health.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.
Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
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Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1.2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.79 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.45 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.0087 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 10

Filler:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 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)): > 10 - 100 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version 1.2	Revision Date: 2024/10/17	SDS Number (Internal): 11365170-00003	Date of last issue: 2024/07/03 Date of first issue: 2024/03/20
----------------	------------------------------	--	---

Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 1 mg/l
Exposure time: 21 d
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50: > 600 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

NOEC: > 600 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

4,4'-(Hexafluoroisopropylidene)diphenol:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 4.2 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 215

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.7 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 3 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.052 mg/l
Exposure time: 3 d
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 0.125 mg/l
Exposure time: 120 d
Method: No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.23 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

Paraffin waxes and Hydrocarbon waxes:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version 1.2	Revision Date: 2024/10/17	SDS Number (Internal): 11365170-00003	Date of last issue: 2024/07/03 Date of first issue: 2024/03/20
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Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 21 d
Remarks: Based on data from similar materials

Persistence and degradability

Components:

Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

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

4,4'-(Hexafluoroisopropylidene)diphenol:

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

Paraffin waxes and Hydrocarbon waxes:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Bioaccumulative potential

Components:

Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)

:

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version 1.2	Revision Date: 2024/10/17	SDS Number (Internal): 11365170-00003	Date of last issue: 2024/07/03 Date of first issue: 2024/03/20
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Partition coefficient: n-octanol/water : log Pow: 2.28

Filler:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): < 500

Partition coefficient: n-octanol/water : log Pow: -1.03
Remarks: Calculation

4,4'-(Hexafluoroisopropylidene)diphenol:

Bioaccumulation : Species: Zebrafish
Bioconcentration factor (BCF): 9.8
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 2.79

Paraffin waxes and Hydrocarbon waxes:

Partition coefficient: n-octanol/water : log Pow: 5.3 - 6.7

Mobility in soil

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of contents and container according to wastes control act.

Do not dispose of waste into sewer.

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.

Disposal precautions

Dispose of contents and container according to wastes control act.

14. TRANSPORT INFORMATION

International Regulations

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

UNRTDG

UN number	: Not applicable
Proper shipping name	: Not applicable
Class	: Not applicable
Subsidiary risk	: Not applicable
Packing group	: Not applicable
Labels	: Not applicable
Environmentally hazardous	: no

IATA-DGR

UN/ID No.	: Not applicable
Proper shipping name	: Not applicable
Class	: Not applicable
Subsidiary risk	: Not applicable
Packing group	: Not applicable
Labels	: Not applicable
Packing instruction (cargo aircraft)	: Not applicable
Packing instruction (passenger aircraft)	: Not applicable

IMDG-Code

UN number	: Not applicable
Proper shipping name	: Not applicable
Class	: Not applicable
Subsidiary risk	: Not applicable
Packing group	: Not applicable
Labels	: Not applicable
EmS Code	: Not applicable
Marine pollutant	: no

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

Not applicable for product as supplied.

National Regulations

Refer to section 15 for specific national regulation.

Special precautions for user

Not applicable

15. REGULATORY INFORMATION

National regulatory information

Regulation under the Occupational Safety and Health Act

Harmful Substances Prohibited from Manufacturing

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Harmful Agents to be kept below Occupational Exposure Limits

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

Chemical name	CAS-No.
Filler	Proprietary Ingredient
Paraffin wax	8002-74-2

Harmful Agents Required to be kept below Permission Levels

Not applicable

Hazardous substances requiring management

Not applicable

Special Management Materials

Not applicable

Controlled Substances Subject to Environment Monitoring

Not applicable

Controlled Substances Subject to Health Examination

Not applicable

Hazardous Substances Subject to Process Safety Management (PSM) Reporting Obligation

Not applicable

K-OSHA Hazardous Substances (Occupational Safety and Health Regulations, Table 1)

Not applicable

K-OSHA Hazardous Substances (Occupational Safety and Health Regulations, Table 9)

Not applicable

Regulation under the Chemicals Control Act

Toxic Chemicals

Not applicable

Restricted Chemicals

Not applicable

Prohibited Chemicals

Not applicable

Toxic Release Inventory

Not applicable

Accident Precaution Chemicals

Not applicable

Dangerous Substances Safety Management Act

Not Applicable to Dangerous Materials

Wastes Control Act

Industrial general wastes

Follow article 13 of the act to dispose the product waste

16. OTHER INFORMATION

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue:
1.2	2024/10/17	11365170-00003	2024/07/03
			Date of first issue: 2024/03/20

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Further information

Sources of key data used to compile the 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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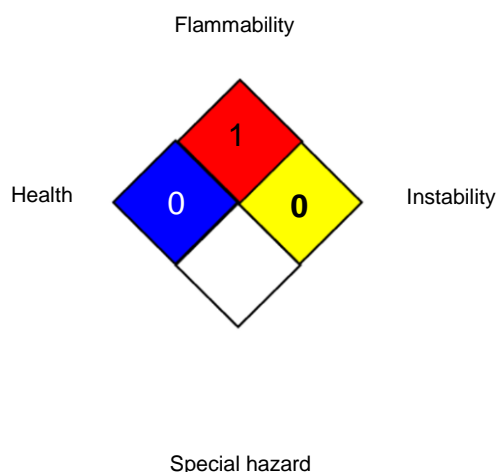
Revision number and date

Number of Revision : 2

Revision Date : 2024/10/17

Date format : yyyy/mm/dd

NFPA:



Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
KR OEL : Harmful Agents to be kept below Occupational Exposure Limits

ACGIH / TWA : 8-hour, time-weighted average
KR OEL / TWA : Time Weighted Average

SAFETY DATA SHEET



Viton™ AL-276C fluoroelastomer

Version	Revision Date:	SDS Number (Internal):	Date of last issue: 2024/07/03
1.2	2024/10/17	11365170-00003	Date of first issue: 2024/03/20

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

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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