

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

Section 1: Identification

Product identifier : Nafion™ PFSA 20% Dispersions - D2021CS

SDS-Identcode : 130000034156

Other means of identification : Nafion™ PFSA 20% Dispersions - D2021

Recommended use of the chemical and restrictions on use

Recommended use : Intermediate

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 : The Chemours Company Singapore PTE. LTD.

Address : 1 HarbourFront Place, #16-01 HarbourFront Tower One
Singapore 098633

Telephone : 65-6715-8688

Emergency telephone number : 1800 315 8134

Telefax : 65-6715-8697

Section 2: Hazard identification

Classification of the substance or mixture

Flammable liquids : Category 2


Serious eye damage/eye irritation : Category 1

Specific target organ toxicity - single exposure : Category 3

GHS Label elements, including precautionary statements

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue:
3.0	30.05.2024	11118961-00004	25.10.2023
			Date of first issue: 07.12.2022

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H225 Highly flammable liquid and vapour. H318 Causes serious eye damage. H336 May cause drowsiness or dizziness.
Precautionary statements	:	Prevention: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P241 Use explosion-proof electrical/ ventilating/ lighting equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P261 Avoid breathing mist or vapours. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. Response: P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. Storage: P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up. Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Labelling

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 20 %

Other hazards which do not result in classification

The thermal decomposition vapours of fluorinated plastics may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.
Vapours may form explosive mixture with air.

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

Section 3: Composition/information on ingredients

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Propan-1-ol	71-23-8	≥ 30 -< 50
Ethanol	64-17-5	≥ 1 -< 10

Section 4: First-aid measures**Description of necessary 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 plenty of water.
Remove contaminated clothing and shoes.
Get medical attention if symptoms occur.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention immediately.
- If swallowed : If swallowed, DO NOT induce vomiting.
If vomiting occurs have person lean forward.
Call a physician or poison control centre immediately.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

- Risks : Effects of breathing high concentrations of vapour may include:
Central nervous system depression
Dizziness
confusion
Lack of coordination
Drowsiness
Unconsciousness
narcosis
Repeated exposure may cause skin dryness or cracking.
Ingestion may provoke the following symptoms:
Vomiting
Eye contact may provoke the following symptoms
Irritation

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

Pain
tearing
Swelling of tissue
Redness
Impairment of vision
Lung damage
Causes serious eye damage.
May cause drowsiness or dizziness.

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).

Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

Section 5: Fire-fighting measures**Extinguishing media**

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

Unsuitable extinguishing media : High volume water jet

Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Hydrogen fluoride
carbonyl fluoride
potentially toxic fluorinated compounds
aerosolized particulates

Special protective actions for fire-fighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

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

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

so.
Evacuate area.

Section 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions : Remove all sources of ignition.
Ventilate the area.
Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
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

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
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**Precautions for safe handling**

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

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
Use explosion-proof electrical, ventilating and lighting equipment.

Advice on safe handling : Avoid breathing mist or vapours.

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

Do not swallow.
Do not get in 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.
Keep container tightly closed.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
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, including any incompatibilities

Conditions for safe storage : Keep in properly labelled containers.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.

Materials to avoid : Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable gases
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Poisonous gases
Explosives

Recommended storage temperature : 0 - 32 °C

Further information on storage stability : Do not freeze.

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions - D2021CS

Version 3.0 Revision Date: 30.05.2024 SDS Number: 11118961-00004 Date of last issue: 25.10.2023
Date of first issue: 07.12.2022

Section 8: Exposure controls/personal protection

Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Propan-1-ol	71-23-8	PEL (long term)	200 ppm 492 mg/m ³	SG OEL
		PEL (short term)	250 ppm 614 mg/m ³	SG OEL
		TWA	100 ppm	ACGIH
Ethanol	64-17-5	PEL (long term)	1,000 ppm 1,880 mg/m ³	SG OEL
		STEL	1,000 ppm	ACGIH

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
hydrofluoric acid	7664-39-3	PEL (short term)	3 ppm 2.6 mg/m ³	SG OEL
		TWA	0.5 ppm (Fluorine)	ACGIH
		C	2 ppm (Fluorine)	ACGIH
Carbonyl difluoride	353-50-4	PEL (short term)	5 ppm 13 mg/m ³	SG OEL
		PEL (long term)	2 ppm 5.4 mg/m ³	SG OEL
		TWA	2 ppm	ACGIH
		STEL	5 ppm	ACGIH
Carbon dioxide	124-38-9	PEL (short term)	30,000 ppm 54,000 mg/m ³	SG OEL
		PEL (long term)	5,000 ppm 9,000 mg/m ³	SG OEL
		TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
Carbon monoxide	630-08-0	PEL (long term)	25 ppm 29 mg/m ³	SG OEL
		TWA	25 ppm	ACGIH

Appropriate engineering control measures

: Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.
Use explosion-proof electrical, ventilating and lighting equip-

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

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Individual protection measures, such as personal protective equipment (PPE)

- | | | |
|------------------------|---|---|
| Eye/face protection | : | Wear the following personal protective equipment:
Chemical resistant goggles must be worn.
If splashes are likely to occur, wear:
Face-shield |
| Skin 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). |
| Respiratory protection | : | If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. |
| Filter type | : | Combined particulates, acidic gas/vapour and organic vapour type |
| Hand protection | : | |
| Material | : | butyl-rubber |
| Glove thickness | : | 16 - 32 mm |
| 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! |

Section 9: Physical and chemical properties

- | | | |
|------------|---|---------------------------------|
| Appearance | : | liquid |
| Colour | : | clear, colourless, light yellow |
| Odour | : | alcohol-like |

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

Odour Threshold	:	No data available
pH	:	2
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	18 °C Method: Pensky-Martens closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Ignitable (see flash point)
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1.01 - 1.03 g/cm ³
Solubility(ies) Water solubility	:	dispersible
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity Viscosity, dynamic	:	50 - 500 mPa.s (25 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions - D2021CS

Version 3.0	Revision Date: 30.05.2024	SDS Number: 11118961-00004	Date of last issue: 25.10.2023 Date of first issue: 07.12.2022
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Particle characteristics
Particle size : Not applicable

Section 10: Stability and reactivity

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Highly flammable liquid and vapour.
Vapours may form explosive mixture with air.
Can react with strong oxidizing agents.
Hazardous decomposition products will be formed at elevated temperatures.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Oxidizing agents

Hazardous decomposition products

Thermal decomposition : hydrofluoric acid
Carbonyl difluoride
Carbon dioxide
Carbon monoxide

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:

Propan-1-ol:

Acute oral toxicity	: LD50 (Rabbit): 2,823 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 33.8 mg/l Exposure time: 4 h Test atmosphere: vapour Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	: LD50 (Rabbit): 4,032 mg/kg

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

Ethanol:

Acute oral toxicity	: LD50 (Rat): 10,470 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	: LC50 (Rat, male): 116.9 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	: LD50 (Rabbit): > 15,800 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Exposure time	: 1 h
Method	: In Vitro Membrane Barrier Test Method for Skin Corrosion - CORROSITEX
Result	: No skin irritation

Components:

Propan-1-ol:

Species	: Rabbit
Result	: No skin irritation

Ethanol:

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

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Propan-1-ol:

Species	: Rabbit
Result	: Irreversible effects on the eye

Ethanol:

Species	: Rabbit
Result	: Irritation to eyes, reversing within 21 days
Method	: OECD Test Guideline 405

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

Respiratory sensitisation

Not classified based on available information.

Components:**Propan-1-ol:**

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Result	: negative

Ethanol:

Test Type	: Mouse ear swelling test (MEST)
Exposure routes	: Skin contact
Species	: Mouse
Result	: negative

Germ cell mutagenicity

Not classified based on available information.

Components:**Propan-1-ol:**

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: OECD Test Guideline 476
		Result: negative
		Test Type: Chromosome aberration test in vitro
		Method: OECD Test Guideline 473
		Result: negative

Ethanol:

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: OECD Test Guideline 476
		Result: negative
		Test Type: Chromosome aberration test in vitro
		Result: negative
	Genotoxicity in vivo	:
		Species: Rat

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

Application Route: Ingestion
Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Components:**Ethanol:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative

STOT - single exposure

May cause drowsiness or dizziness.

Components:**Propan-1-ol:**

Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity**Components:****Propan-1-ol:**

Species : Rat
NOAEL : > 8 mg/l
Application Route : inhalation (vapour)
Method : OECD Test Guideline 413

Ethanol:

Species : Rat
NOAEL : 1,730 mg/kg
LOAEL : 3,200 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Aspiration toxicity

Not classified based on available information.

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue:
3.0	30.05.2024	11118961-00004	25.10.2023
			Date of first issue: 07.12.2022

Components:**Propan-1-ol:**

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Section 12: Ecological information**Toxicity****Components:****Propan-1-ol:**

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 4,555 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 3,644 mg/l Exposure time: 48 h Method: DIN 38412
Toxicity to algae/aquatic plants	: EC50 (Pseudokirchneriella subcapitata (green algae)): 9,170 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 21 d

Ethanol:

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 14,200 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Ceriodaphnia dubia (water flea)): 5,012 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l Exposure time: 72 h EC10 (Chlorella vulgaris (Fresh water algae)): 11.5 mg/l Exposure time: 72 h
Toxicity to fish (Chronic toxicity)	: NOEC (Oryzias latipes (Japanese medaka)): >= 79 mg/l Exposure time: 100 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC (Daphnia magna (Water flea)): 9.6 mg/l Exposure time: 9 d
Toxicity to microorganisms	: EC50 (Protozoa): 5,800 mg/l Exposure time: 4 h

Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue:
3.0	30.05.2024	11118961-00004	25.10.2023
			Date of first issue: 07.12.2022

II

Persistence and degradability**Components:****Propan-1-ol:**

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 75 % Exposure time: 20 d
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Ethanol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 84 % Exposure time: 20 d
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Bioaccumulative potential**Components:****Propan-1-ol:**

Partition coefficient: n-octanol/water	:	log Pow: 0.2
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Ethanol:

Partition coefficient: n-octanol/water	:	log Pow: -0.35
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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.
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Dispose of in accordance with local regulations.

Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.
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SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions - D2021CS

Version	Revision Date:	SDS Number:	Date of last issue: 25.10.2023
3.0	30.05.2024	11118961-00004	Date of first issue: 07.12.2022

Section 14: Transport information

International Regulations

UNRTDG

UN number	: UN 1993
UN proper shipping name	: FLAMMABLE LIQUID, N.O.S. (Propan-1-ol, Ethanol)
Transport hazard class(es)	: 3
Packing group	: II
Labels	: 3
Environmental hazards	: no

IATA-DGR

UN/ID No.	: UN 1993
UN proper shipping name	: Flammable liquid, n.o.s. (Propan-1-ol, Ethanol)
Transport hazard class(es)	: 3
Packing group	: II
Labels	: Flammable Liquids
Packing instruction (cargo aircraft)	: 364
Packing instruction (passenger aircraft)	: 353

IMDG-Code

UN number	: UN 1993
Proper shipping name	: FLAMMABLE LIQUID, N.O.S. (Propan-1-ol, Ethanol)
Transport hazard class(es)	: 3
Packing group	: II
Labels	: 3
EmS Code	: F-E, <u>S-E</u>
Marine pollutant	: no

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

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 specific for the product in question

Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.

Environmental Protection and Management Act and	: Not applicable
Environmental Protection and Management (Hazard-	

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions - D2021CS

Version 3.0	Revision Date: 30.05.2024	SDS Number: 11118961-00004	Date of last issue: 25.10.2023 Date of first issue: 07.12.2022
----------------	------------------------------	-------------------------------	---

ous Substances) Regulations

Fire Safety (Petroleum and Flammable Materials) Regulations	: n-Propanol Ethanol Ethers
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Section 16: Other information

Revision Date : 30.05.2024

Other information : Nafion™ and any associated logos are trademarks or copy-rights of The Chemours Company FC, LLC.
Chemours™ and the Chemours Logo are trademarks of The Chemours Company.
Before use read Chemours safety information.
For further information contact the local Chemours office or nominated distributors.

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/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
SG OEL : Singapore. Workplace Safety and Health (General Provisions) Regulations - First Schedule Permissible Exposure Limits of Toxic Substances.

ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
ACGIH / C : Ceiling limit
SG OEL / PEL (long term) : Permissible Exposure Level (PEL) Long Term
SG OEL / PEL (short term) : Permissible Exposure Level (PEL) Short Term

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 con-

Nafion™ PFSA 20% Dispersions - D2021CS

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centration; 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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