

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

SECTION 1. IDENTIFICATION

Product name : Nafion™ PFSA 20% Dispersions D2020CS
Other means of identification : Nafion™ PFSA 20% Dispersions D2020
SDS-Identcode : 130000034155

Manufacturer or supplier's details

Company name of supplier : Fuel Cell Store
Address : 1902 Pinon Drive, Unit B
College Station, TX 77845
Telephone : 1-979-703-1925
Emergency telephone : INFOTRAC 1-800-535-5053 (USA Only) +1-352-323-3500 (Outside USA)

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.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 2
Serious eye damage : Category 1
Specific target organ toxicity - single exposure : Category 3

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.
H318 Causes serious eye damage.

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

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.
P261 Avoid breathing mist or vapors.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face 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:

P405 Store locked up.

Disposal:

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

Other hazards

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Propan-1-ol	71-23-8	>= 30 - < 60
Ethanol	64-17-5	>= 1 - < 5

Actual concentration or concentration range 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.

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

- 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 center immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Effects of breathing high concentrations of vapor may include:
Central nervous system depression
Dizziness
confusion
Lack of coordination
Drowsiness
Unconsciousness
narcosis
Repeated exposure may cause skin dryness or cracking.
Eye contact may provoke the following symptoms
Irritation
Pain
tearing
Swelling of tissue
Redness
Impairment of vision
Lung damage
Ingestion may provoke the following symptoms:
Vomiting
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).
- Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical
- Unsuitable extinguishing media : High volume water jet

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

- 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.
Vapors 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
- 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.
Ventilate the area.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.
- Environmental precautions : Discharge into the environment must be avoided.
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 : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapors/mists with a water spray jet.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked 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.

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- 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 : Do not breathe vapors or spray mist.
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 and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled 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:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives
Gases
- Recommended storage temperature : 0 - 32 °C
- Further information on storage stability : Do not freeze.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
 Date of first issue: 02/27/2017

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Propan-1-ol	71-23-8	TWA	200 ppm 492 mg/m ³	CA AB OEL
		STEL	400 ppm 984 mg/m ³	CA AB OEL
		TWA	100 ppm	CA BC OEL
		TWAEV	200 ppm 492 mg/m ³	CA QC OEL
		STEV	250 ppm 614 mg/m ³	CA QC OEL
Ethanol	64-17-5	TWA	100 ppm	ACGIH
		TWA	1,000 ppm 1,880 mg/m ³	CA AB OEL
		STEL	1,000 ppm	CA BC OEL
		TWAEV	1,000 ppm 1,880 mg/m ³	CA QC 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	TWA	0.5 ppm 0.4 mg/m ³ (Fluorine)	CA AB OEL
		(c)	2 ppm 1.6 mg/m ³ (Fluorine)	CA AB OEL
		C	2 ppm (Fluorine)	CA BC OEL
		C	3 ppm 2.6 mg/m ³ (Fluorine)	CA QC OEL
		TWA	0.5 ppm (Fluorine)	ACGIH
Carbonyl difluoride	353-50-4	C	2 ppm (Fluorine)	ACGIH
		TWA	2 ppm 5.4 mg/m ³	CA AB OEL
		STEL	5 ppm 13 mg/m ³	CA AB OEL
		TWA	2 ppm	CA BC OEL
		STEL	5 ppm	CA BC OEL
		STEV	5 ppm 13 mg/m ³	CA QC OEL
		TWAEV	2 ppm 5.4 mg/m ³	CA QC OEL
Carbon dioxide	124-38-9	TWA	2 ppm	ACGIH
		STEL	5 ppm	ACGIH
		STEL	30,000 ppm 54,000 mg/m ³	CA AB OEL

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
 Date of first issue: 02/27/2017

		TWA	5,000 ppm 9,000 mg/m ³	CA AB OEL
		TWA	5,000 ppm	CA BC OEL
		STEL	15,000 ppm	CA BC OEL
		TWAEV	5,000 ppm 9,000 mg/m ³	CA QC OEL
		STEV	30,000 ppm 54,000 mg/m ³	CA QC OEL
		TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
Carbon monoxide	630-08-0	TWA	25 ppm 29 mg/m ³	CA AB OEL
		TWA	25 ppm	CA BC OEL
		STEL	100 ppm	CA BC OEL
		TWAEV	35 ppm 40 mg/m ³	CA QC OEL
		STEV	200 ppm 230 mg/m ³	CA QC OEL
		TWA	25 ppm	ACGIH

Engineering measures : Processing may form hazardous compounds (see section 10).
 Minimize workplace exposure concentrations.
 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 : Combined particulates, acidic gas/vapor and organic vapor type

Hand protection

Material : butyl-rubber
 Glove thickness : 16 - 32 mm

Remarks : Choose gloves to protect hands against chemicals depending on the concentration 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!

Eye protection : Wear the following personal protective equipment:
 Chemical resistant goggles must be worn.
 If splashes are likely to occur, wear:
 Face-shield

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

- 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.
Wash contaminated clothing before re-use.
-

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : clear, colorless, light yellow
- Odor : alcohol-like
- Odor Threshold : No data available
- pH : 2
- Melting point/freezing point : No data available
- Initial boiling point and boiling range : 87.7 °C
- 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

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

Vapor pressure : No data available

Relative vapor density : No data available

Density : 1.01 - 1.03 g/cm³

Solubility(ies)
Water solubility : dispersible

Partition coefficient: n-octanol/water : Not applicable

Autoignition 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.

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 vapor.
Vapors 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

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

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: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): 4,032 mg/kg

Ethanol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 124.7 mg/l
Exposure time: 4 h
Test atmosphere: vapor

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

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

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 sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

Propan-1-ol:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Ethanol:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : 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

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

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: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Ingestion
Result: equivocal

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 (vapor)

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

Method : OECD Test Guideline 413

Ethanol:

Species : Rat
NOAEL : 1,280 mg/kg
LOAEL : 3,156 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Aspiration toxicity

Not classified based on available information.

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

Ecotoxicity

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)): > 1,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia (water flea)): > 1,000 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

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

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 (Pseudomonas putida): 6,500 mg/l
Exposure time: 16 h

Persistence and degradability

Components:

Propan-1-ol:

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

Ethanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 84 %
Exposure time: 20 d

Bioaccumulative potential

Components:

Propan-1-ol:

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

Ethanol:

Partition coefficient: n-octanol/water : log Pow: -0.35

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.
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.

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version 4.9 Revision Date: 04/22/2020 SDS Number: 1334111-00040 Date of last issue: 11/15/2019
Date of first issue: 02/27/2017

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Propan-1-ol, Ethanol)
Class : 3
Packing group : II
Labels : 3

IATA-DGR

UN/ID No. : UN 1993
Proper shipping name : Flammable liquid, n.o.s.
(Propan-1-ol, Ethanol)
Class : 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)
Class : 3
Packing group : II
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : no

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

Not applicable for product as supplied.

Domestic regulation

TDG

UN number : UN 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Propan-1-ol, Ethanol)
Class : 3
Packing group : II
Labels : 3
ERG Code : 128
Marine pollutant : no

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.

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version Revision Date: SDS Number: Date of last issue: 11/15/2019
4.9 04/22/2020 1334111-00040 Date of first issue: 02/27/2017

SECTION 15. REGULATORY INFORMATION

SECTION 16. OTHER INFORMATION

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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)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / C	:	Ceiling limit
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA AB OEL / (c)	:	ceiling occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / STEL	:	short-term exposure limit
CA BC OEL / C	:	ceiling limit
CA QC OEL / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value
CA QC OEL / C	:	Ceiling

AICS - Australian Inventory of Chemical Substances; 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, Bioaccumu-

SAFETY DATA SHEET



Nafion™ PFSA 20% Dispersions D2020CS

Version	Revision Date:	SDS Number:	Date of last issue: 11/15/2019
4.9	04/22/2020	1334111-00040	Date of first issue: 02/27/2017

lative 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; 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

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/>

Revision Date : 04/22/2020

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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