

# SAFETY DATA SHEET



## Krytox™ 283AD

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2023
2.2	02.11.2023	1790291-00010	Date of first issue: 27.06.2017

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### SECTION 1: IDENTIFICATION

Product name : Krytox™ 283AD

SDS-Identcode : 130000031473

#### Manufacturer or supplier's details

Company : The Chemours Company (Australia) Pty Ltd (C/O Ashurst Australia)

Address : Level 26, 181 William Street  
Melbourne VIC 3000 Australia

Telephone : 1300 915 623

Emergency telephone number : Medical emergency: 1800 674 415 (24 h) ; Transport emergency: +61 2 9037 2994

#### Recommended use of the chemical and restrictions on use

Recommended use : Lubricant

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.

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Not a hazardous substance or mixture.

#### GHS label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

#### 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.

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Components

# SAFETY DATA SHEET



## Krytox™ 283AD

Version 2.2	Revision Date: 02.11.2023	SDS Number: 1790291-00010	Date of last issue: 24.04.2023 Date of first issue: 27.06.2017
----------------	------------------------------	------------------------------	---

Chemical name	CAS-No.	Concentration (% w/w)
Sodium nitrite	7632-00-0	< 10

### SECTION 4. FIRST AID MEASURES

- If inhaled : If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.
- In case of skin contact : Wash with water and soap as a precaution.  
Get medical attention if symptoms occur.
- In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention if symptoms occur.  
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Inhalation may provoke the following symptoms:  
Irritation  
Lung oedema  
Eye contact may provoke the following symptoms  
Blurred vision  
Discomfort  
Lachrymation  
Skin contact may provoke the following symptoms:  
Irritation  
Redness  
Inhalation may provoke the following symptoms:  
Irritation  
Shortness of breath
- Protection of first-aiders : No special precautions are necessary for first aid responders.
- Notes to physician : Treat symptomatically and supportively.

### SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Not applicable  
Will not burn
- Unsuitable extinguishing media : Not applicable  
Will not burn
- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Hydrogen fluoride  
carbonyl fluoride  
potentially toxic fluorinated compounds  
aerosolized particulates

# SAFETY DATA SHEET



## Krytox™ 283AD

Version 2.2	Revision Date: 02.11.2023	SDS Number: 1790291-00010	Date of last issue: 24.04.2023 Date of first issue: 27.06.2017
----------------	------------------------------	------------------------------	---

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Carbon oxides  
Nitrogen oxides (NOx)  
Metal oxides

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

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

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

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 : Soak up with inert absorbent material.  
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.

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### SECTION 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

# SAFETY DATA SHEET



## Krytox™ 283AD

Version 2.2	Revision Date: 02.11.2023	SDS Number: 1790291-00010	Date of last issue: 24.04.2023 Date of first issue: 27.06.2017
----------------	------------------------------	------------------------------	---

environment.

Do not breathe decomposition products.

- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.
- Conditions for safe storage : Keep in properly labelled containers.  
Store in accordance with the particular national regulations.
- Materials to avoid : No special restrictions on storage with other products.
- Further information on storage stability : No decomposition if stored and applied as directed.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

#### Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
hydrofluoric acid	7664-39-3	Peak limit	3 ppm 2.6 mg/m <sup>3</sup> (Fluorine)	AU OEL
		TWA	0.5 ppm (Fluorine)	ACGIH
		C	2 ppm (Fluorine)	ACGIH
Carbonyl difluoride	353-50-4	TWA	2 ppm 5.4 mg/m <sup>3</sup>	AU OEL
		STEL	5 ppm 13 mg/m <sup>3</sup>	AU OEL
		TWA	2 ppm	ACGIH
		STEL	5 ppm	ACGIH
Carbon dioxide	124-38-9	TWA	5,000 ppm 9,000 mg/m <sup>3</sup>	AU OEL
		STEL	30,000 ppm 54,000 mg/m <sup>3</sup>	AU OEL
		TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
Carbon monoxide	630-08-0	TWA	30 ppm 34 mg/m <sup>3</sup>	AU OEL
		TWA	25 ppm	ACGIH

# SAFETY DATA SHEET



## Krytox™ 283AD

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2023
2.2	02.11.2023	1790291-00010	Date of first issue: 27.06.2017

---

**Engineering measures** : Processing may form hazardous compounds (see section 10).  
Ensure adequate ventilation, especially in confined areas.  
Minimize workplace exposure concentrations.

### 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/vapour and organic vapour type

**Hand protection**

**Remarks** : Wash hands before breaks and at the end of workday.

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

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

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** : Grease

**Colour** : white

**Odour** : odourless

**Odour Threshold** : No data available

**pH** : 7

**Melting point/freezing point** : 320 °C

**Initial boiling point and boiling range** : No data available

**Flash point** : Not applicable

**Evaporation rate** : Not applicable

**Flammability (solid, gas)** : Will not burn

# SAFETY DATA SHEET



## Krytox™ 283AD

Version 2.2	Revision Date: 02.11.2023	SDS Number: 1790291-00010	Date of last issue: 24.04.2023 Date of first issue: 27.06.2017
----------------	------------------------------	------------------------------	---

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Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	1.89 - 1.93 hPa
Relative vapour density	:	Not applicable
Relative density	:	1.89 - 1.93
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	320 °C
Viscosity Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	No data available

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid	:	None known.
Incompatible materials	:	None.

#### Hazardous decomposition products

Thermal decomposition	:	hydrofluoric acid Carbonyl difluoride Carbon dioxide Carbon monoxide
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# SAFETY DATA SHEET



## Krytox™ 283AD

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2023
2.2	02.11.2023	1790291-00010	Date of first issue: 27.06.2017

---

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### SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes : Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Not classified based on available information.

#### Product:

Acute oral toxicity : Assessment: The substance or mixture has no acute oral toxicity

#### Components:

##### Sodium nitrite:

Acute oral toxicity : LD50 (Rat): 180 mg/kg  
Acute inhalation toxicity : LC50 (Rat): 5.5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

#### Skin corrosion/irritation

Not classified based on available information.

#### Components:

##### Sodium nitrite:

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

#### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

##### Sodium nitrite:

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.

# SAFETY DATA SHEET



## Krytox™ 283AD

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2023
2.2	02.11.2023	1790291-00010	Date of first issue: 27.06.2017

---

### Respiratory sensitisation

Not classified based on available information.

### Chronic toxicity

#### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### Sodium nitrite:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: positive
		Test Type: In vitro mammalian cell gene mutation test Result: positive
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Result: negative
		Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: Intraperitoneal injection Result: negative

### Carcinogenicity

Not classified based on available information.

#### Components:

##### Sodium nitrite:

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

### Reproductive toxicity

Not classified based on available information.

#### Components:

##### Sodium nitrite:

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



## Krytox™ 283AD

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2023
2.2	02.11.2023	1790291-00010	Date of first issue: 27.06.2017

---

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

### STOT - single exposure

Not classified based on available information.

### STOT - repeated exposure

Not classified based on available information.

### Repeated dose toxicity

#### Components:

##### Sodium nitrite:

Species	: Rat
NOAEL	: 10 mg/kg
Application Route	: Ingestion
Exposure time	: 2 yr

### Aspiration toxicity

Not classified based on available information.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### Sodium nitrite:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 0.54 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 15.4 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EC50 (Scenedesmus capricornutum (fresh water algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201  NOEC (Scenedesmus capricornutum (fresh water algae)): 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	: NOEC (Cyprinus carpio (Carp)): 21 mg/l Exposure time: 30 d Method: OECD Test Guideline 210

# SAFETY DATA SHEET



## Krytox™ 283AD

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2023
2.2	02.11.2023	1790291-00010	Date of first issue: 27.06.2017

---

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Penaeid Shrimp): 9.86 mg/l  
Exposure time: 80 d

Toxicity to microorganisms : EC50: 281 mg/l  
Exposure time: 48 h

### Persistence and degradability

No data available

### Bioaccumulative potential

No data available

### Mobility in soil

No data available

### Other adverse effects

No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Do not dispose of waste into sewer.  
  
Dispose of in accordance with local regulations.

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

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## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### UNRTDG

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable

#### 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

# SAFETY DATA SHEET



## Krytox™ 283AD

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2023
2.2	02.11.2023	1790291-00010	Date of first issue: 27.06.2017

---

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 : Not applicable

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

Not applicable for product as supplied.

### National Regulations

#### ADG

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
Hazchem Code : Not applicable

### Special precautions for user

Not applicable

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## SECTION 15. REGULATORY INFORMATION

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

Prohibition/Licensing Requirements : Sodium nitrite  
Refer to model WHS Act and Regulations for prohibition, authorisation and restricted use.

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## SECTION 16: ANY OTHER RELEVANT INFORMATION

Other information : Krytox™ and any associated logos are trademarks or copyrights 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

Revision Date : 02.11.2023

# SAFETY DATA SHEET



## Krytox™ 283AD

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2023
2.2	02.11.2023	1790291-00010	Date of first issue: 27.06.2017

---

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/>

Date format : dd.mm.yyyy

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
AU OEL : Australia. Workplace Exposure Standards for Airborne Contaminants.

ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
ACGIH / C : Ceiling limit  
AU OEL / TWA : Exposure standard - time weighted average  
AU OEL / STEL : Exposure standard - short term exposure limit  
AU OEL / Peak limit : Exposure standard - peak

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

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## Krytox™ 283AD

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2023
2.2	02.11.2023	1790291-00010	Date of first issue: 27.06.2017

---

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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