# SAFETY DATA SHEET



### Dichlorofluoromethane

## **Section 1. Identification**

**GHS** product identifier

**Chemical name** 

Other means of identification

: Dichlorofluoromethane

: dichlorofluoromethane

Methane, dichlorofluoro-; Dichloromonofluoromethane; Dichloromonofluoro-methane;

Refrigerant 21; Halon 112; Genetron 21; Freon 21; Fluorodichloromethane;

DICHLOROMONOFLUOROMETHANE (FC 21); Freon® 21

**Product use** : Synthetic/Analytical chemistry.

**Synonym** : Methane, dichlorofluoro-; Dichloromonofluoromethane; Dichloromonofluoro-methane;

Refrigerant 21; Halon 112; Genetron 21; Freon 21; Fluorodichloromethane;

DICHLOROMONOFLUOROMETHANE (FC 21); Freon® 21

SDS# : 001218

Supplier's details : Airgas USA, LLC and its affiliates

259 North Radnor-Chester Road

Suite 100

Radnor, PA 19087-5283

1-610-687-5253

24-hour telephone : 1-866-734-3438

## Section 2. Hazards identification

**OSHA/HCS** status

: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : GASES UNDER PRESSURE - Liquefied gas HAZARDOUS TO THE OZONE LAYER - Category 1

**GHS label elements** 

**Hazard pictograms** 





Signal word

: Warning

**Hazard statements** 

: Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation.

May cause frostbite.

Harms public health and the environment by destroying ozone in the upper atmosphere.

**Precautionary statements** 

General

: Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position.

**Prevention** Response

: Not applicable. : Not applicable.

**Storage** 

: Protect from sunlight. Store in a well-ventilated place.

**Disposal** 

: Refer to manufacturer or supplier for information on recovery or recycling.

Hazards not otherwise

classified

: Liquid can cause burns similar to frostbite. May displace oxygen and cause rapid suffocation.

Date of issue/Date of revision : 8/31/2017 1/11 Date of previous issue Version:1 : No previous validation

## Section 3. Composition/information on ingredients

Substance/mixture

**Chemical name** 

Other means of identification

: Substance

dichlorofluoromethane

: Methane, dichlorofluoro-; Dichloromonofluoromethane; Dichloromonofluoro-methane; Refrigerant 21; Halon 112; Genetron 21; Freon 21; Fluorodichloromethane;

DICHLOROMONOFLUOROMETHANE (FC 21); Freon® 21

#### **CAS** number/other identifiers

**CAS number** : 75-43-4 **Product code** : 001218

Ingredient name	%	CAS number
dichlorofluoromethane	100	75-43-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

#### **Description of necessary first aid measures**

**Eye contact** 

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** 

: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section.

#### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : Liquid can cause burns similar to frostbite.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact**: Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or

frostbite.

**Frostbite** : Try to warm up the frozen tissues and seek medical attention.

Ingestion
 Ingestion of liquid can cause burns similar to frostbite.

### Over-exposure signs/symptoms

**Eye contact**: Adverse symptoms may include the following:, frostbite

Date of issue/Date of revision : 8/31/2017 Date of previous issue : No previous validation Version : 1 2/11

## Section 4. First aid measures

Inhalation

: No specific data.

**Skin contact** 

Ingestion

: Adverse symptoms may include the following:, frostbite : Adverse symptoms may include the following:, frostbite

#### Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** 

: No specific treatment.

**Protection of first-aiders** 

: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

### See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### **Extinguishing media**

Suitable extinguishing

media

: Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing** 

media

: None known.

Specific hazards arising from the chemical

**Hazardous thermal** decomposition products : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

: Decomposition products may include the following materials:

carbon dioxide carbon monoxide

halogenated compounds

carbonyl halides

**Special protective actions** for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers

**Special protective** equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

**Environmental precautions** 

: Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). May be harmful to the environment if released in large quantities.

Date of issue/Date of revision : 8/31/2017 Version:1 3/11 Date of previous issue : No previous validation

## Section 6. Accidental release measures

### Methods and materials for containment and cleaning up

**Small spill** 

: Immediately contact emergency personnel. Stop leak if without risk.

Large spill

: Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

#### **Precautions for safe handling**

**Protective measures** 

: Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing. Avoid breathing gas. Avoid release to the environment. Refer to special instructions/safety data sheet. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

**Advice on general** occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

including any incompatibilities

**Conditions for safe storage**, : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

## Section 8. Exposure controls/personal protection

#### **Control parameters**

**Occupational exposure limits** 

Ingredient name	Exposure limits
dichlorofluoromethane	ACGIH TLV (United States, 3/2017).  TWA: 42 mg/m³ 8 hours.  TWA: 10 ppm 8 hours.  NIOSH REL (United States, 10/2016).  TWA: 40 mg/m³ 10 hours.  TWA: 10 ppm 10 hours.  OSHA PEL (United States, 6/2016).  TWA: 4200 mg/m³ 8 hours.  TWA: 1000 ppm 8 hours.
	OSHA PEL 1989 (United States, 3/1989). TWA: 40 mg/m³ 8 hours. TWA: 10 ppm 8 hours.

### **Appropriate engineering** controls

**Environmental exposure** controls

- : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### **Individual protection measures**

Date of issue/Date of revision Date of previous issue : 8/31/2017 Version:1 : No previous validation

## Section 8. Exposure controls/personal protection

#### **Hygiene measures**

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### **Eye/face protection**

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

### **Skin protection**

**Hand protection** 

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

#### **Body protection**

 Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** 

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### **Appearance**

Physical state : Gas. [Liquefied gas]

Color : Colorless.

Molecular weight : 102.92 g/mole

Molecular formula : C-H-Cl2-F

Boiling/condensation point : 8.9°C (48°F)

Melting/freezing point : -135°C (-211°F)

Critical temperature : Not available.

Odor : Characteristic.
Odor threshold : Not available.
pH : Not available.

Flash point : [Product does not sustain combustion.]

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive : Not available.

(flammable) limits

 Vapor pressure
 : 23.1 (psig)

 Vapor density
 : 3.8 (Air = 1)

 Specific Volume (ft ³/lb)
 : 20.1207

 Gas Density (lb/ft ³)
 : 0.0497

**Relative density** : Not applicable.

Date of issue/Date of revision: 8/31/2017Date of previous issue: No previous validationVersion: 1

# Section 9. Physical and chemical properties

**Solubility** : Not available.

Solubility in water : 10 g/l Partition coefficient: n- : 1.55

octanol/water

Auto-ignition temperature : 522°C (971.6°F)

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not applicable.

## Section 10. Stability and reactivity

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability**: The product is stable.

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

**Hazardous decomposition** 

products

 Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Hazardous polymerization**: Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological information

## Information on toxicological effects

### **Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
dichlorofluoromethane	LC50 Inhalation Gas.	Rat	99800 ppm	1 hours
	LC50 Inhalation Gas.	Rat	49900 ppm	4 hours

**IDLH** : 5000 ppm

### **Irritation/Corrosion**

Not available.

#### **Sensitization**

Not available.

#### **Mutagenicity**

Not available.

#### **Carcinogenicity**

Not available.

### **Reproductive toxicity**

Not available.

#### **Teratogenicity**

Not available.

### Specific target organ toxicity (single exposure)

Date of issue/Date of revision : 8/31/2017 Date of previous issue : No previous validation Version : 1 6/11

# Section 11. Toxicological information

Not available

#### Specific target organ toxicity (repeated exposure)

Not available.

#### **Aspiration hazard**

Not available.

Information on the likely routes of exposure

: Routes of entry anticipated: Inhalation.

Potential acute health effects

Eye contactInhalationLiquid can cause burns similar to frostbite.No known significant effects or critical hazards.

**Skin contact**: Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or

frostbite.

IngestionIngestion of liquid can cause burns similar to frostbite.

#### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact**: Adverse symptoms may include the following:, frostbite

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:, frostbiteIngestion : Adverse symptoms may include the following:, frostbite

#### Delayed and immediate effects and also chronic effects from short and long term exposure

**Short term exposure** 

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

**Long term exposure** 

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

#### Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
 Carcinogenicity : No known significant effects or critical hazards.
 Mutagenicity : No known significant effects or critical hazards.
 Teratogenicity : No known significant effects or critical hazards.
 Developmental effects : No known significant effects or critical hazards.
 Fertility effects : No known significant effects or critical hazards.

### **Numerical measures of toxicity**

**Acute toxicity estimates** 

Not available.

Date of issue/Date of revision : 8/31/2017 Date of previous issue : No previous validation Version : 1 7/11

## **Section 12. Ecological information**

#### **Toxicity**

Not available.

#### Persistence and degradability

Not available.

#### **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential
dichlorofluoromethane	1.55	-	low

#### **Mobility in soil**

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

## Section 13. Disposal considerations

### **Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## **Section 14. Transport information**

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1029	UN1029	UN1029	UN1029	UN1029
UN proper shipping name	DICHLOROFLUOROMETHANE OR REFRIGERANT GAS R21	DICHLOROFLUOROMETHANE; OR REFRIGERANT GAS R 21	DICHLOROFLUOROMETHANE; OR REFRIGERANT GAS R 21	DICHLOROFLUOROMETHANE (REFRIGERANT GAS R 21)	DICHLOROFLUOROMETHANE
Transport hazard class(es)	2.2	2.2	2.2	2.2	2.2
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	Limited quantity Yes.  Packaging instruction Passenger aircraft Quantity limitation: 75 kg  Cargo aircraft Quantity limitation: 150 kg  Special provisions T50	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).  Explosive Limit and Limited Quantity Index 0.125  Passenger Carrying Road or Rail Index	-	-	Passenger and Cargo Aircraft Quantity limitation: 75 kg Cargo Aircraft Only Quantity limitation: 150 kg

Date of issue/Date of revision : 8/31/2017 Date of previous issue : No previous validation Version : 1 8/11

# Section 14. Transport information

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Special precautions for user : Transport within user's premises: always transport in closed containers that are

upright and secure. Ensure that persons transporting the product know what to do in the

event of an accident or spillage.

Transport in bulk according: Not available. to Annex II of MARPOL and

the IBC Code

## Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): This material is listed or exempted.

Clean Air Act Section 112

(b) Hazardous Air **Pollutants (HAPs)**  : Not listed

Clean Air Act Section 602

**Class I Substances** 

: Not listed

Clean Air Act Section 602

**Class II Substances** 

Listed

**DEA List I Chemicals** 

: Not listed

(Precursor Chemicals)

**DEA List II Chemicals** (Essential Chemicals) : Not listed

#### **SARA 302/304**

#### **Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312** 

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

**SARA 313** 

	Product name	CAS number	%
Form R - Reporting requirements	dichlorofluoromethane	75-43-4	100
Supplier notification	dichlorofluoromethane	75-43-4	100

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

#### **State regulations**

**Massachusetts** : This material is listed. **New York** : This material is not listed. : This material is listed. **New Jersey Pennsylvania** : This material is listed.

#### **International regulations**

#### Montreal Protocol (Annexes A, B, C, E)

Ingredient name	List name	Status
HCFC 21	Montreal protocol (Annexes A, B, C, E)	Annex C, Group I

## Section 15. Regulatory information

#### **International lists**

**National inventory** 

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : Not determined.

**Europe** : This material is listed or exempted.

Japan inventory (ENCS): This material is listed or exempted.

Japan inventory (ISHL): Not determined.

Malaysia : Not determined.

New Zealand: This material is listed or exempted.Philippines: This material is listed or exempted.Republic of Korea: This material is listed or exempted.Taiwan: This material is listed or exempted.

Canada

WHMIS (Canada) : Class A: Compressed gas.

**CEPA Toxic substances**: This material is listed. **Canadian ARET**: This material is not listed. **Canadian NPRI**: This material is not listed.

Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

### Section 16. Other information

Canada Label requirements : Class A: Compressed gas.

**Hazardous Material Information System (U.S.A.)** 



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)** 



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Date of issue/Date of revision : 8/31/2017 Date of previous issue : No previous validation Version : 1 10/11

# **Section 16. Other information**

Classification	Justification
Press. Gas Liq. Gas, H280 Ozone 1, H420	Expert judgment On basis of test data

#### **History**

Date of printing : 8/31/2017

Date of issue/Date of : 8/31/2017

revision

Date of previous issue : No previous validation

Version :

**Key to abbreviations** : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

References : Not available.

**✓** Indicates information that has changed from previously issued version.

Other special considerations

: WARNING: Contains (Dichlorofluoromethane), a substance which harms the public health and environment by destroying ozone in the upper atmosphere.

#### **Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Date of issue/Date of revision : 8/31/2017 Date of previous issue : No previous validation Version : 1 11/11