

Safety data sheet

According to 1907/2006/EC, article 31

Printing date:2014-04-30

Version: 6EN

Revision: 2014-01-07

SECTION 1 : Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- .Product name : A211
- .Product grade(s) : VAC 18/8; VAC 25/9; VAC 40/11; VAC 140/13.
- .Chemical characterization : Perfluorinated polyethers
- .CAS-No. : 69991-67-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

- . Use of the Substance/Mixture: vacuum pump lubricant
- . Recommended restrictions on use: Restricted to professional users.
- . Identified uses:
 - Electronic industry
 - Electrical industry
 - Chemical industry
 - For industrial use only.

1.3 Details of the supplier of the safety data sheet

.The supplier :
adixen Vacuum Products
98 avenue de BROGNY
BP 2069
74009 ANNECY CEDEX
FRANCE
Téléphone :+(33) 04 50 65 77 77
Fax :+(33) 04 50 65 77 89
Email : support-service@adixen.fr

1.4 Emergency telephone number

- . Emergency phone nr : Tel ORFILA (INRS) : 33 (0)1 45.42.59.59

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SECTION 2 : Hazards identification

2.1 Classification of the substance or mixture

- . European regulation (EC) 1272/2008, as amended
Not classified as hazardous according to the European regulation (EC) 1272/2008, as amended
- . European Directive 67/548/EEC or 1999/45/EC, as amended
Not classified as hazardous according to European Directive 67/548/EEC or 1999/45/EC, as amended

2.2 Label elements

No labelling

2.3 Other hazards

- Thermal decomposition can lead to release of toxic and corrosive gases.
- Do not handle until all safety precautions have been read and understood.

SECTION 3 : Composition/information on ingredients

3.1 Substances

Concentration

| Substance name: | Concentration |
|--|---------------|
| 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. No.-CAS: 69991-67-9 / No.-CE: - / No.-Index: - | > 99,9 % |

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SECTION 4 : First aid measures

4.1 Description of first aid measures

- . If inhaled
 - Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.
 - Oxygen or artificial respiration if needed.
- . In case of eye contact
 - Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
 - If eye irritation persists, consult a specialist.
- . In case of skin contact
 - Wash off with soap and water.
- . If swallowed
 - Drink 1 or 2 glasses of water.
 - Do NOT induce vomiting.
 - If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

- . Inhalation
 - No known effect.
- . Skin contact
 - Effects of skin contacts may include:
 - Redness
- . Eye contact
 - Contact with eyes may cause irritation.
 - Redness
- . Ingestion
 - Ingestion may provoke the following symptoms:
 - Symptoms: Nausea, Vomiting, Diarrhoea

4.3 Indication of any immediate medical attention and special treatment needed

- .Treatment: For specialist advice physicians should contact the Poisons Information Service.

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SECTION 5 : Firefighting measures

5.1 Extinguishing media

. Suitable extinguishing media :

- Water
- powder
- Foam
- Dry chemical
- Carbon dioxide (CO₂)

. Unsuitable extinguishing media :

- None.

5.2 Special hazards arising from the substance or mixture

- . The product is not flammable.
- . Not explosive
- . In case of fire hazardous decomposition products may be produced such as: Gaseous hydrogen fluoride (HF), Fluorophosgene

5.3 Advice for firefighters

- . Wear self-contained breathing apparatus and protective suit.
- . When intervention in close proximity wear acid resistant over suit.
- . Evacuate personnel to safe areas.
- . Approach from upwind.
- . Protect intervention team with a water spray as they approach the fire.
- . Keep containers and surroundings cool with water spray.
- . Keep product and empty container away from heat and sources of ignition.

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SECTION 6 : Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- . Advice for non-emergency personnel :
 - Prevent further leakage or spillage if safe to do so.

- . Advice for emergency responders :
 - Ensure adequate ventilation.
 - Material can create slippery conditions.
 - Sweep up to prevent slipping hazard.
 - Keep away from open flames, hot surfaces and sources of ignition.

6.2. Environmental precautions

- . Should not be released into the environment.
- . Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

- . Soak up with inert absorbent material.
- . Suitable material for picking up
 - . Dry sand
 - . Earth
- . Shovel into suitable container for disposal.

6.4 Reference to other sections

- . Refer to protective measures listed in sections 7 and 8.

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SECTION 7 : Handling and storage

7.1 Precautions for safe handling

- . Ensure adequate ventilation.
- . Use personal protective equipment.
- . Keep away from heat and sources of ignition.
- . To avoid thermal decomposition, do not overheat.
- . Take measures to prevent the build up of electrostatic charge.
- . Clean and dry piping circuits and equipment before any operations.
- . Ensure all equipment is electrically grounded before beginning transfer operations.

7.2 Conditions for storage, including incompatibilities

- . Storage :
 - Keep away from heat and sources of ignition
 - Keep in properly labelled containers.
 - Keep away from combustible material.
 - Keep away from incompatible products
 - Provide tight electrical equipment well protected against corrosion.
 - Refer to protective measures listed in sections 7 and 8.
- . Packaging material: Suitable material: Plastic material PP, PE, PVDF, PTFE, PFA.

7.3 Specific end use(s)

For further information, please contact: Supplier

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SECTION 8 : Exposure controls/personal protection

8.1 Control parameters

. Exposure Limit Values

Remarks:

- Threshold limit values of by-products from thermal decomposition

Hydrogen fluoride anhydrous

- UK. EH40 Workplace Exposure Limits (WELs) 12 2011

time weighted average = 1.8 ppm

time weighted average = 1.5 mg/m³

Remarks: as F

- UK. EH40 Workplace Exposure Limits (WELs) 12 2011

Short term exposure limit = 3 ppm

Short term exposure limit = 2.5 mg/m³

Remarks: as F

- US. ACGIH Threshold Limit Values 03 2012

time weighted average = 0.5 ppm

- US. ACGIH Threshold Limit Values 03 2012

Ceiling Limit Value = 2 ppm

- EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU 12 2009

time weighted average = 1.8 ppm

time weighted average = 1.5 mg/m³

Remarks: Indicative

- EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU 12 2009

Short term exposure limit = 3 ppm

Short term exposure limit = 2.5 mg/m³

Remarks: Indicative

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- US. ACGIH Threshold Limit Values 03 2012

Remarks: as F, Can be absorbed through skin.

Carbonyl difluoride

- US. ACGIH Threshold Limit Values 03 2012

time weighted average = 2 ppm

- US. ACGIH Threshold Limit Values 03 2012

Short term exposure limit = 5 ppm

- UK. EH40 Workplace Exposure Limits (WELs) 12 2011

time weighted average = 2.5 mg/m³

Remarks: as F

- EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU 12 2009

time weighted average = 2.5 mg/m³

Remarks: Indicative

8.2 Exposure controls

. Appropriate engineering controls

- Provide local ventilation appropriate to the product decomposition risk (see section 10).

- Refer to protective measures listed in sections 7 and 8.

- Apply technical measures to comply with the occupational exposure limits.

. Individual protection measures:

. Respiratory protection

- No personal respiratory protective equipment normally required.

- Use respirator when performing operations involving potential exposure to vapour of the product.

- Use only respiratory protection that conforms to international/ national standards.

. Hand protection

- Latex gloves

- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

. Eye protection

- Tightly fitting safety goggles

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- . Skin and body protection
 - Long sleeved clothing
 - Safety shoes

- . Hygiene measures
 - Ensure that eyewash stations and safety showers are close to the workstation location.
 - When using, do not eat, drink or smoke.
 - Wash hands before breaks and at the end of workday.
 - Handle in accordance with good industrial hygiene and safety practice.

- . Environmental exposure controls
 - Dispose of rinse water in accordance with local and national regulations.

SECTION 9 : Physical and chemical properties

9.1 Information on basic physical and chemical properties

. General Information:

Appearance : liquid
Colour : colourless
Odour : odourless
Odour Threshold : No data
Molecular weight : Range of values: 2.500 - 6.500

. Important health safety and environmental information:

pH : No data
pKa : No data
Melting point/freezing point : not applicable
Boiling point/boiling range : > 270 °C
Flash point : The product is not flammable.
Evaporation rate : No data
Flammability (solid, gas) : No data
Flammability : The product is not flammable.
Explosive properties : Not explosive
Vapour pressure : <0,0000001 hPa, at 20 °C
Vapour density : No data
Density : 1,89 - 1,92 g/cm³
Relative density : No data
Bulk density : No data

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Solubility(ies) :insoluble : Water ; soluble : fluorinated solvents
Solubility/qualitative : No data
Partition coefficient: n-octanol/water : No data
Auto-ignition temperature : No data
Decomposition temperature : > 290 °C
Viscosity : 283,5 - 3.264 mPa.s
Oxidizing properties : Non oxidizer

9.2 Other information

.Remarks : No data

SECTION 10 : Stability and reactivity

10.1 Reactivity

. No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

. Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

. No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

- . Avoid to use in presence of high voltage electric arc and in absence of oxygen.
- . Keep away from flames.
- . To avoid thermal decomposition, do not overheat.

10.5 Incompatible materials

- . Lewis acids (Friedel-Crafts) above 100°C
- . Aluminum and magnesium in powder form above 200°C
- . Metals promote and lower decomposition temperature

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10.6 Hazardous decomposition products

- . Gaseous hydrogen fluoride (HF)., Fluorophosgene

SECTION 11 : Toxicological information

11.1 Acute toxicity

- . Acute oral toxicity
 - LD50, rat, > 15,000 mg/kg
- . Acute inhalation toxicity
 - no data available
- . Acute dermal toxicity
 - LD50, rat, > 5,000 mg/kg
- . Skin corrosion/irritation
 - rabbit, No skin irritation
 - rabbit, No skin irritation, 14 days
- . Serious eye damage/eye irritation
 - rabbit, No eye irritation
- . Respiratory or skin sensitization :
 - guinea pig, Did not cause sensitisation on laboratory animals., Skin
- . Germ cell mutagenicity
 - Not mutagenic in Ames Test.
 - negative, Chromosome aberration test in vitro
- . Carcinogenicity
 - no data available
- . Reproductive toxicity
 - no data available
- . Specific target organ toxicity - single exposure
 - Remarks: no data available

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. Specific target organ toxicity :

- repeated exposure
- Remarks: no data available

. Aspiration hazard :

- no data available

. Other information :

- Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.
- The product is biologically inert.
- Thermal decomposition can lead to release of toxic and corrosive gases.
- Exposure to decomposition products
- Causes severe irritation of eyes, skin and mucous membranes.

SECTION 12 : Ecological information

12.1 Toxicity

- . Fishes, Brachydanio rerio, LC50, 96 h, > 360 mg/l, 200 ppm, saturated aqueous solution
- . Daphnia magna (Water flea), EC50, 48 h, > 360 mg/l, 200 ppm, saturated aqueous solution

12.2 Persistence and degradability

- . Abiotic degradation :
- Result: no data available

- . Biodegradation :
- non-biodegradable

12.3 Bioaccumulative potential

- . Result: no data available

12.4 Mobility in soil

- . no data available

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12.5 Results of PBT and vPvB assessment

. no data available

12.6 Other adverse effects

. Ecological injuries are not known or expected under normal use.

SECTION 13 : Disposal considerations

13.1 Waste treatment methods

- . Can be incinerated, when in compliance with local regulations.
- . The incinerator must be equipped with a system for the neutralisation or recovery of HF.
- . Dispose of in accordance with local regulations.

13.2. Contaminated packaging

- . Empty containers can be landfilled, when in accordance with the local regulations.

SECTION 14 : Transport information

14.1 UN-Number

- . ADR : not regulated
- . IATA : not regulated
- . IMDG : not regulated
- . RID : not regulated

14.2 UN proper shipping name

- . ADR : not regulated
- . IATA : not regulated
- . IMDG : not regulated
- . RID : not regulated

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14.3 Transport hazard class(es)

- . ADR : not regulated
- . IATA : not regulated
- . IMDG : not regulated
- . RID : not regulated

14.4 Packing group

- . ADR : not regulated
- . IATA : not regulated
- . IMDG : not regulated
- . RID : not regulated

14.5 Environmental hazards

- . not regulated

14.6 Special precautions for user

- . not regulated

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

- . not regulated

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SECTION 15 : Regulatory information

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

- . Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, as amended
- . Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), as amended
- . European Waste Catalogue
- . Waste codes should be assigned by the user based on the application for which the product was used.

- . Notification status

| Inventory Information | Statut |
|---|---------------------|
| Liste Toxic Substance Control Act (TSCA) | Listed on inventory |
| Australia. Inventory of Chemical Substances (AICS) | Listed on inventory |
| Canada. Domestic Substances List (DSL) | Listed on inventory |
| Korean Existing Chemicals Inventory (KECI (KR)) | Listed on inventory |
| China. Inventory of Existing Chemical Substances (IECSC) | Listed on inventory |
| Japan. Industrial Safety & Health Law Inventory (ISHL (JP)) | Listed on inventory |
| Japan. Inventory of Existing & New Chemical Substances (ENCS) | Listed on inventory |
| Philippine. Inventory of Chemicals and Chemical Substances (PICCS) | Listed on inventory |
| New Zealand. Inventory of Chemicals (NZIOC) | Listed on inventory |
| Taiwan. National Existing Chemical Substance Inventory (NECSI) | Listed on inventory |
| Enregistrement, valorisation, autorisation et limitation produits chimiques (REACH) | Listed on inventory |

15.2 Chemical Safety Assessment

- . A Chemical Safety Assessment is not required for this substance.

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SECTION 16 : Other information

Sources

Safety data sheet of the supplier

Other

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.