

**MATERIAL SAFETY DATA SHEET: A211**

**Reference : A211 MSDS**

**1. PRODUCT: SOME SUBSTANCE OR PREPARATION OF THE SOCIETY:**

**Product name:** A211 OIL

- Commercial use: vacuum pump lubricant

**Supplier:** ALCATEL VACUUM TECHNOLOGY FRANCE  
 98 avenue de BROGNY  
 BP 2069  
 74009 ANNECY CEDEX  
 FRANCE

**Telephone:** (33) 4 50 65 77 77

**Fax:** (33) 4 50 65 77 89

**Person to contact:** Vacuum Technology Division Quality Manager

**Email:** [Jean-Loup.MONBEIG@adixen](mailto:Jean-Loup.MONBEIG@adixen)

**Emergency telephone number:** (33) 4 50 65 77 77

**The time schedule:** 8 a m to 12 a m and 2 p m ato 7 p m

**2. HAZARDS IDENTIFICATION:**

**Appearance:** liquid

**Color:** colorless

**Odor:** odorless

- Substance none classified according to Directive 67/548/EEC.
- The product is biologically inert.
- Not hazardous in normal conditions of handling and use
  - Ecological injuries are not known or expected under normal use.

**3. INFORMATION ON INGREDIENTS:**

**Substance name**

(CAS-No. / EC-No. / Annex-1)

**Concentration**

(W/W)

**Classification R-phrased(s)**

**1-Propene, 1, 1, 2, 3, 3, 3-hexafluoro-, oxidized, polymd.> 99.9 %**

(69991-67-9 / Exempt or not available / Exempt or not available)

**4. FIRST AID MEASURES:**

**4.1. Inhalation**

- Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.
- Oxygen or artificial respiration if needed.

**MATERIAL SAFETY DATA SHEET: A211**
**Reference : A211 MSDS**
**4.2. Eye contact**

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If eye irritation persists, consult a specialist.

**4.3. Skin contact**

- Wash off with soap and water.
- If symptoms persist, call a physician.

**4.4. Ingestion**

- Drink 1 or 2 glasses of water.
- Do NOT induce vomiting.
- If symptoms persist, call a physician.

**5. FIRE CONTROL MEASURES:**
**5.1. Suitable extinguishing media**

- Water
- powder
- Foam
- Dry chemical
- Carbon dioxide (CO<sub>2</sub>)

**5.2. Extinguishing media which shall not be used for safety reasons**

- None.

**5.3. Special exposure hazards in a fire**

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

**5.4. Special protective equipment for fire-fighters**

- Wear self-contained breathing apparatus and protective suit.
- When intervention in close proximity wear acid resistant over suit.

**5.5. Other information**

- 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.

**MATERIAL SAFETY DATA SHEET: A211**

**Reference : A211 MSDS**

**6. MEASURES TO BE TAKEN IN THE EVENT OF ACCIDENTAL DISPERSION:**

**6.1. Personal precautions**

- Ensure adequate ventilation.
- Material can create slippery conditions.
- Sweep up to prevent slipping hazard.
- Prevent further leakage or spillage if safe to do so.
- Keep away from open flames, hot surfaces and sources of ignition.
- Refer to protective measures listed in sections 7 and 8.

**6.2. Environmental precautions**

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

**6.3. Methods for cleaning up**

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

**7. STORAGE AND HANDLING:**

**7.1. Handling**

- No special handling advice required.
- 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 buildup 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. Storage**

- No special storage conditions required.
- Keep in properly labeled containers.
- Keep away from heat and sources of ignition.
- Keep away from combustible material.
- Keep away from Incompatible products.

**7.3. Specific use(s)**

- For further information, please contact: Supplier

**7.4. Packaging material**

- Plastic material PP, PE, PVDF, PTFE, PFA.

**MATERIAL SAFETY DATA SHEET: A211**

**Reference : A211 MSDS**

**7.5. Other information**

- Provide tight electrical equipment well protected against corrosion.
- Refer to protective measures listed in sections 7 and 8.

**8. EXPOSURE INSPECTION / INDIVIDUAL PROTECTION:**

**8.1. Exposure Limit Values**

Remarks:

FOMBLIN(R) Y HVAC

**FDS / P 19886** / 22/07/2009 / United Kingdom / Report version 1.1 / Issuing date 23.07.2008

4/8

- Threshold limit values of by-products from thermal decomposition

**Hydrogen fluoride anhydrous**

- UK. EH40 Workplace Exposure Limits (WELs) 2005

time weighted average = 1.8 ppm

time weighted average = 1.5 mg/m<sup>3</sup>

Remarks: as F

- UK. EH40 Workplace Exposure Limits (WELs) 2005

Short term exposure limit = 3 ppm

Short term exposure limit = 2.5 mg/m<sup>3</sup>

Remarks: as F

- US. ACGIH Threshold Limit Values 2007

time weighted average = 0.5 ppm

Remarks: as F

- US. ACGIH Threshold Limit Values 2007

Ceiling Limit Value = 2 ppm

Remarks: as F

- EU. Indicative Exposure and Directives relating to the protection of risks related to work exposure to

chemical, physical, and biological agents. 02 2006

time weighted average = 1.8 ppm

time weighted average = 1.5 mg/m<sup>3</sup>

- EU. Indicative Exposure and Directives relating to the protection of risks related to work exposure to

chemical, physical, and biological agents. 02 2006

Short term exposure limit = 3 ppm

Short term exposure limit = 2.5 mg/m<sup>3</sup>

**MATERIAL SAFETY DATA SHEET: A211**

**Reference : A211 MSDS**

**Carbonyl difluoride**

- US. ACGIH Threshold Limit Values 01 2006  
time weighted average = 2 ppm
- US. ACGIH Threshold Limit Values 01 2006  
Short term exposure limit = 5 ppm
- UK. EH40 Workplace Exposure Limits (WELs) 2005  
time weighted average = 2.5 mg/m<sup>3</sup>

Remarks: as F

- EU. Indicative Exposure and Directives relating to the protection of risks related to work exposure to chemical, physical, and biological agents. 02 2006  
time weighted average = 2.5 mg/m<sup>3</sup>

**8.2. Exposure 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.

**8.2.1. Occupation al expo sure controls**

**8.2.1.1. Respire tory protection**

- No personal respiratory protective equipment normally required.
- Wear self-contained breathing apparatus in confined spaces, in cases where the oxygen level is depleted, or in case of significant emissions.
- Use only respiratory protection that conforms to international/ national standards.

**8.2.1.2. Hand protection**

- Rubber or plastic gloves
- 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).

**8.2.1.3. Eye protection**

- Tightly fitting safety goggles

**9. PHYSICAL AND CHEMICAL PROPERTIES:**

**9.1. General Information (appearance, odor)**

**Appearance:** liquid

**Color:** colorless

**Odor:** odorless

**MATERIAL SAFETY DATA SHEET: A211**

**Reference : A211 MSDS**

**9.2. Important health safety and environmental information**

**Boiling point/boiling range:** > 270 °C

**Flash point:** *Remarks:* The product is not flammable.

**Flammability:** *Remarks:* The product is not flammable.

**Explosive properties:** *Explosion danger:*

*Remarks:* Not explosive

**Oxidizing properties:** *Remarks:* Non oxidizer

**Vapor pressure:** < 0.0000001 hPa

*Temperature:* 20 °C

**Relative density / Density:** 1.89 - 1.92 g/cm<sup>3</sup>

**Solubility:** Water

*Remarks:* insoluble

: fluorinated solvents

*Remarks:* soluble

**Viscosity:** 283.5 - 3,264 mPa.s

**9.3. Other data**

**Melting point/range:** *Remarks:* not applicable

**Decomposition**

**Temperature > 290°**

**10. STABILITY AND REACTIVITY:**

**10.1. Stability**

- Stable under recommended storage conditions.

**10.2. Conditions to avoid**

- To avoid thermal decomposition, do not overheat.

FOMBLIN(R) Y HVAC

**FDS / P 19886** / 22/07/2009 / United Kingdom / Report version 1.1 / Issuing date

23.07.2008

6/8

- Keep away from flames and sparks.

**10.3. Materials to avoid**

- Combustible material, Flammable materials, non-aqueous alkalis, Lewis acids (Friedel-Crafts) above

100°C, Aluminum and magnesium in powder form above 200°C, metals promote and lower decomposition temperature

**10.4. Hazardous decomposition products**

- Gaseous hydrogen fluoride (HF), Fluor phosgene

**MATERIAL SAFETY DATA SHEET: A211**

**Reference : A211 MSDS**

**11. TOXICOLOGICAL INFORMATION:**

**11.1 Toxicological data**

***Acute oral toxicity***

- LD50, rat, > 15,000 mg/kg

***Acute dermal toxicity***

- LD50, rat, > 5,000 mg/kg

***Skin irritation***

- rabbit, No skin irritation  
 - rabbit, No skin irritation, Remarks: 14 days

***Eye irritation***

- rabbit, No eye irritation

***Sensitization***

- guinea pig, did not cause sensitization on laboratory animals. Remarks: Skin

***Genetic toxicity in vitro***

- Not mutagenic in Ames Test.  
 - negative, Remarks: Chromosome aberration test in vitro

***Possible hazards (summary)***

- Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.  
 - The product is biologically inert.

**11.2. Health effects**

***Main effects***

- Thermal decomposition can lead to release of toxic and corrosive gases.  
 - Exposure to decomposition products  
 - Causes severe irritation of eyes, skin and mucous membranes.

***Inhalation***

- No known effect.

***Eye contact***

- Contact with eyes may cause irritation.  
 - Redness

***Skin contact***

- Redness

***Ingestion***

- Ingestion may provoke the following symptoms:  
 - Symptoms: Nausea, Vomiting, Diarrhea.

**MATERIAL SAFETY DATA SHEET: A211**

**Reference : A211 MSDS**

**12. ENVIRONMENTAL INFORMATION:**

**12.1. Ecotoxicity effects**

***Acute toxicity***

- Fishes, Brachydanio rerio, LC50, 96 h, > 360 mg/l

Remarks: saturated aqueous solution

- Daphnia magna (Water flea), EC50, 48 h, > 360 mg/l

Remarks: saturated aqueous solution

**12.2. Mobility**

- Remarks: no data available

**12.3. Persistence and degradability**

***A biotic degradation***

- Result: no data available

***Biodegradation***

- Remarks: no data available

**12.4. Bioaccumulative potential**

- Result: no data available

**12.5. Other adverse effects**

- no data available

**12.6. Possible hazards (summary)**

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

**13. INFORMATION ON PRODUCT ELIMINATION:**

**13.1. Waste from residues / unused products**

- Can be incinerated, when in compliance with local regulations.

- The incinerator must be equipped with a system for the neutralization or recovery of HF.

- In accordance with local and national regulations.

**13.2. Packaging treatment**

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

**14. INFORMATION CONCERNING TRANSPORT:**

- Sea (IMO/IMDG)

- not regulated

- Air (ICAO/IATA)

- not regulated

- European Road/Rail (ADR/RID)

- not regulated



**MATERIAL SAFETY DATA SHEET: A211**
**Reference : A211 MSDS**
**15. REGULATION INFORMATION:**
**15.1. EC Label**

- Substance none classified according to Directive 67/548/EEC.

**15.2. Inventory Information**
**Toxic Substance Control Act list (TSCA)**

: - In compliance with inventory.

FOMBLIN(R) Y HVAC

**FDS / P 19886** / 22/07/2009 / United Kingdom / Report version 1.1 / Issuing date 23.07.2008

8/8

**Australian Inventory of Chemical Substances (AICS)**

: - In compliance with inventory.

**Canadian Domestic Substances List (DSL)**

: - In compliance with inventory.

**Inventory of Existing Chemical Substances (China) (IECS)**

: - In compliance with inventory.

**Korea Existing Chemicals Inv. (KECI) (KECI (KR))**

: - In compliance with inventory.

**Japanese Existing and New Chemical Substances (MITI List) (ENCS)**

: - In compliance with inventory.

**New Zealand Inventory (in Preparation) (NZ)**

: - In compliance with inventory.

**Philippine Inventory of Chemicals and Chemical Substances (PICCS)**

: - In compliance with inventory.

**EU list of existing chemical substances (EINECS)**

: - not applicable, Product falls under the EU-polymer definition...

**15.3. Other regulations**

- European Waste Catalogue, Hazardous waste, Waste codes should be assigned by the user based on the application for which the product was used.

**MATERIAL SAFETY DATA SHEET: A211**
**Reference : A211 MSDS**
**16 OTHER INFORMATION:**
**16.1. Administrative information**

The present safety sheet applies to product which conforms to the specification, unless otherwise stated. In the case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

This sheet completes the technical user manual but does not replace it. The information that it contains is based on our knowledge concerning the product in question on the date of edition of this sheet, and is given in good faith. Users should also pay attention to the risks which may be involved when a product is used for purposes other than that for which it was originally intended.

No guarantees can be given on the accuracy of the information contained in this sheet. The sheet, given to our customers in good faith in the sole aim of informing and helping them in their research, cannot be considered to provide an absolute or implicit guarantee related to its use. Consequently, ALCATEL VACUUM TECHNOLOGY FRANCE or ALCATEL subsidiaries cannot be held responsible for damage of any type related to the publication of this document. Similarly, none of the information it contains should be interpreted as an authorisation or recommendation for the use of products which would cause an infringement of patent rights.