

**1.0 IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY:**

Trade names: vacuumformed parts: **AV 1750/xx (G) and AV 1700/xx (G)**  
xx.....bulk density [kg/m<sup>3</sup>] (G).....extra hardened with inorganic binder  
mastics: **APO 95/70, APO 95/70 AI**

**1.1 IDENTIFICATION OF THE MANUFACTURER:**

Alfatec Ges.m.b.H.  
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**2.0 COMPOSITION / INFORMATION OF INGREDIENTS:****DESCRIPTION:**

Vacuumformed parts, blankets and mastics, made of polycrystalline ceramic fibre, organic and inorganic binder

CAS-number	COMPONENT	%	Symbol	R-Phrases
65997-17-3	Al <sub>2</sub> O <sub>3</sub> SiO <sub>2</sub>	100%	--	--

**3.0 HAZARDS IDENTIFICATION****3.1 MOST IMPORTANT HAZARDS:**

**ACUTE HEALTH EFFECTS** Product is mechanical irritant to skin, eyes and upper respiratory system. Based on animal studies, excessive exposure to refractory ceramic fibres (RCF) dust before and after service may cause lung damage (fibrosis) and tumours. IARC (International Agency for Research on Cancer) has classified RCF as „Possibly carcinogenic to human“ (2B) and crystalline silica as „Probably carcinogenic to human“ (2A). (See also § 16).

On 10. Nov. 1997 the memberstates of the European Union have polycrystalline ceramic fibres classified at category 2 carcinogens (substances which should be regarded as if they are carcinogenic to human) on the base of animal studies.

**PRE-EXISTING CONDITIONS** As with any dust, pre-existing upper respiratory and lung diseases may be aggravated.

**4.0 FIRST AID MEASURES:****4.1 SIGN AND SYPTOMS OF OVEREXPOSITURE:**

**INHALATION:** Irritation or soreness in throat and nose. In extreme exposures some congestion may occur.

**SKIN CONTACT** Temporary irritation or rash.

**EYES** Temporary irritation or inflammation.

**INGESTION:** May cause temporary irritation and disturbance to the gastric-intestinal system.



## 4.2 FIRST AID:

**INHALTION:** Remove to fresh air, drink water to clear throat and blow nose to evacuate fibres.  
**SKIN CONTACT** Rinse affected areas with water and wash gently with soap. Don't use detergent.  
**EYES** Flush eyes with large quantities of water. Have a bath readily available where eye contact may occur.  
**INGESTION:** Drink plenty of water.  
**OTHER**  
**INFORMATIONS:** Acute irritation and/or inflammation are due to mechanical action. Seek medical attention if symptoms persists.

## 5.0 FIRE-FIGHTING MEASURES:

These materials are non-combustibles.  
Use extinguishing agent suitable for type of surrounding combustible materials.

## 6.0 ACCIDENTAL RELEAS MEASURE:

**6.1 PERSONAL PRECAUTIONS:** If spillage causes unnaturally high dust levels, use RPE as recommended in section 8.  
**6.2 ENVIROMENTAL PRECAUTIONS:** Do not flush spillage to drain and prevent from entering natural water courses. Don't allow to be wind blown.  
**6.3 METHODES FOR CLEANING UP:** Good housekeeping practices, such as planned cleaning, will reduce underfoot debris. Pick up large pieces and use a vacuum cleaner with a high-efficiency filter to the exhaust for smaller pieces or dust, otherwise ensure the area is wetted down prior to brushing.

## 7.0 HANDLING AND STORAGE:

**7.1 HANDLING:** Keep dust level to a minimum and below OEL (Occupational Exposure Limit) or ECFIA (European Ceramic Fibre Industry Association) exposure guideline of 1F/ml. (See section 8).  
**7.2 STORAGE:** Store dry and cool.  
**7.3 LABELLING:** Latest after decision of European commission at 10. Nov. 1997 will be published which consider at new classification also different types of material (substance, preparation, article) right labelling will been cleared.  
Articles as vacuumformed shapes with bonded fibres will reflect the difference to substances. Meanwhile vacuumformed shapes are marked with symbol „Xn“.

## 8.0 EXPOSURE CONTROL / PERSONAL PROTECTION:

**8.1 ENGINEERING CONTROL:** Use engineering controls such as dust extractions at point of work to keep dust level to a minimum.  
(See also section 8 § Specific Control Parameters)  
In addition use a vacuum cleaner fitted with HEPA filters to collect debris.

**8.2 SPECIFIC CONTROL PARAMETERS:**

EINECS-number	SUBSTANCE	METHOD	OEL VALUE (8 hour TWA)
65997-17-3	aluminiaoxide Fibre	Membran filter ZH1/120.31	UK: 2 F/ml (1) BRD: 0,5 mg/m <sup>3</sup> F: 0,6 mg/m <sup>3</sup>

(1) UK Health and Safety Executive EH40-Occupational Exposure Limits

**8.4 PERSONAL PROTECTIVE EQUIPMENTS:**

GENERAL RECOMMENDATIONS	Maintain high standards of personal hygiene. Keep work areas regularly cleaned.
RESPIRATORY PROTECTION	0 to 1 F/ml      Optional approved respiratory protection type FFP2 1 to 5 F/ml      Approved respiration protection type FFP2 5 to 25 F/ml     Full face air purifying respirator with high efficiency particulate air filter cartridges or powered air-purifying filters (FFP3). Over 25 F/ml     Please contact your manufacturer for assistance (see page 1)
HAND PROTECTION	Use of glove is recommended.
EYES PROTECTION	Wear goggles or safetyglasses with sideshields. Don't wear contact lenses.
SKIN PROTECTION	Wear overalls which are loose fitting at the neck and wrists.

**9.0 PHYSICAL AND CHEMICAL PROPERTIES:**

APPEARANCE	as written before	ODOUR	none
BOILLING POINT	n.a.	MELTING POINT	>2500°C
FLASH POINT	n.a.	FLAMMABILITY	n.a.
AUTOFLAMMABILITY	n.a.	EXPLOSIVE PROPERTIES	n.a.
OXIDING PROPERETIES	n.a.	VAPOUR PRESSURE	n.a.
BULK DENSITY	as shown in datasheet	SOLUBILITY	slight

**10.0 STABILITY AND REACTIVITY:**

CONDITIONS TO AVOID n.a.                      MATERIALS TO AVOID n.a.

**11.0 TOXICOLOGICAL INFORMATION:**

11.1 ACUTE TOXICITY: Lethal dose 50% (LD)/ Lethal concentration 50% (LC): n.a.

11.2 EPIDEMIOLOGY:

Industry epidemiologic investigations of RCF production workers are continuing in Europe and USA. The preliminary evidence, obtained from employees in RFC manufacturing facilities, is as follows:

- 1) There is no evidence of any fibrotic lung disease (intersistal fibrosis) what's ever on x-ray.
- 2) There is no evidence of any lung decease among those employees exposed to RCF that have never smoked. Among smokers and ex-smokers, some symptoms of dry cough and breathlessness were found.
- 3) A statistical trend was observed in the exposed population between the duration of exposure to RCF and a decrease in some measures of pulmonary function. These observations are clinically insignificant. In other words, if these observations were made on a individual employee, the results would be interpreted as being within the normal range.
- 4) In the US study, pleural plaques (thickening along the chest wall) have been observed in a small number of employees who had a long duration of employment. There are several-occupational and non-occupational causes for pleural plaques. It should be noted that plaque are no pre-cancer or they associated with any measurable effect on lung function.

### 11.3 TOXICOLOGY:

A number of studies on the health effects of inhalation exposure of rats and hamsters have been completed. In a lifetime nose-only inhalation study, rats exposed to the max. tolerated dose of 30 mg/m<sup>3</sup> (200 fibres/cc) developed progressive lung damage (intersistal fibrosis) and cancer of the lung and of the pleura (lining of the chest wall and lung).

In contrast, hamsters similarly exposed developed intersistal fibrosis and pleural cancer, but not lung cancer. Cancer of the pleura is called mesothelioma. A multiple dose study in rats (3, 9, 16mg/m<sup>3</sup>; approximately 25, 75, 115 fibres/cc, respectively) has been concluded after 29 months.

These study data demonstrate a dose-response relationship to the biological effects of RCF in rats.

There is no RCF related increase in lung tumours at 3, 9, 16mg/m<sup>3</sup>. Pulmonary fibrosis was observed at 9 and 16mg/m<sup>3</sup>. A pleural fibrosis an mesothelioma were seen in a single rat in the mid-dose (9mg/m<sup>3</sup>) group.

No consistently diagnosed fibrosis was seen below 9mg/m<sup>3</sup>.

The international Agency for research on Cancer (IACR) reviewed the carcinogenicity data on man-made virtuous fibres (including ceramic fibre, glasswool, rockwool and slagwool) in 1987.

IARC classified ceramic fibre, fibrous glasswool, rockwool and slagwool as possible human carcinogens (group 2B). IARC's classification of ceramic fibre was based on sufficient evidence of carcinogenicity in experimental animals in the absence of data on the carcinogenicity of ceramic fibres to humans.

### 12.0 ECOLOGICAL INFORMATION:

These products are inert materials which remain stable over a considerable time.

### 13.0 DISPOSAL CONSIDERATIONS:

Waste form these materials (even after use above 900°C) is not classified as hazardous waste and may generally be disposed of at a normal tipping site which has been licensed for the disposal of industrial waste.

Where such a waste has been contaminated by products which may be classified as hazardous, experts guidance should be sought.

Such a waste is normally dusty (unless wetted) and should be properly bagged or contained for disposal. At some tip sites dusty waste may be treated differently in order to ensure they are dealt with promptly and to avoid them being wind blown.

### 14.0 TRANSPORT INFORMATION:

Ensure that dust is not wind blown during transporting.

