

1 Identification of the substance/preparation and of the company/undertaking

- **Product details**
- **Trade name: F18 ISOCYANATE**
- **Application of the substance / the preparation** Polyurethane resin
- **Manufacturer/Supplier:**
AXSON TECHNOLOGIES - Rue de l'Equerre - F-95310 SAINT OUEN L'AUMONE
Tél.(33-1)34 40 34 60
- **Further information obtainable from:** DPT HSE -(33) 01 34 40 34 60 - safety@axson.fr
- **Information in case of emergency:** ORFILA : (33)01 45 42 59 59

2 Hazards identification

- **Hazard description:**



Xn Harmful

- **Information concerning particular hazards for human and environment:**
R 20 Harmful by inhalation.
R 36/37/38 Irritating to eyes, respiratory system and skin.
R 40 Limited evidence of a carcinogenic effect.
R 42/43 May cause sensitisation by inhalation and skin contact.
R 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Contains isocyanates. See information supplied by the manufacturer

3 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 101-68-8	diphenylmethane-4,4'-di-isocyanate	50-100%
EINECS: 202-966-0	Xn, Xi; R 20-36/37/38-40-42/43-48/20	

4 First-aid measures

- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Where massive quantities of product have been inhaled in aerosol or concentrated vapour forms : remove patient from affected area. transfer to hospital (to an intensive care unit if necessary) by medically equipped ambulance. While awaiting the arrival of medical help, assist the patient's breathing if this is indicated. Clinical and radiographic monitoring will be required over a prolonged period, since delayed pulmonary oedema may occur.

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- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.

5 Fire-fighting measures

- **Suitable extinguishing agents:**
Carbon dioxide
Fire-extinguishing powder
Foam
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards caused by the substance, its products of combustion or resulting gases:**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Hydrogen cyanide (HCN)
(Traces)
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**
Prevent seepage into sewage system, workpits and cellars.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
After approximately one hour, transfer to suitable drum containers. Do not close these (likelihood of CO₂ production). Cover tops only.
Leave open to air in a supervised area for 7 to 14 days before transferring to an authorized dumping site.

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Inform personnel of risks associated with the product, the precautions to be taken and procedures to follow where an accident occurs.
Avoid exposure to the material of persons having suffered from chronic respiratory affections (especially asthmatic and bronchitic persons) and those having an isocyanate allergy.
- **Information about fire - and explosion protection:** Protect from heat.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.
- **Information about storage in one common storage facility:** Store away from foodstuffs.

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- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Protect from humidity and water.

* 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Ingredients with limit values that require monitoring at the workplace:**

101-68-8 diphenylmethane-4,4'-di-isocyanate

MEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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- **Additional information:** The lists valid during the making were used as basis.

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Fresh air mask

Short term filter device:

Filter A/P2

- **Protection of hands:**



Protective gloves

- **Material of gloves**

Neoprene gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Safety glasses

Tightly sealed goggles

- **Body protection:** Protective work clothing

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9 Physical and chemical properties· **General Information**

Form: Fluid
Colour: Amber coloured
Odour: Characteristic

· **Change in condition**

Melting point/Melting range: NA
Boiling point/Boiling range: NA

- **Flash point:** > 200°C (P. Martens)
- **Ignition temperature:** > 500°C (DIN 51 794)
- **Self-igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Density at 20°C:** 1.10 g/cm³ (ISO 1675:1985)
- **Solubility in / Miscibility with water:** Insoluble.
- **organic solvents:** Soluble in many organic solvents.
- **pH-value at 20°C:** NA

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Materials to be avoided:**
- **Dangerous reactions**
Violent reactions with -NHx, -OH and -SH- groups.
In the presence of water or humidity gas is produced (CO₂) and/or uncontrolled polymerization, possibly leading to internal pressure rises and consequent risk of container breach.
- **Dangerous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information· **Acute toxicity:**· **LD/LC50 values relevant for classification:****101-68-8 diphenylmethane-4,4'-di-isocyanate**

Oral	LD50	15000 mg/kg (rat)
Dermal	LD50	> 5000 mg/kg (rabbit)
Inhalative	LC50/4 h	0.370 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitisation** May cause sensitisation by inhalation and skin contact.

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· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Tumors of the lung were observed on animals of laboratory exposed to the MDI in the form of respirable aerosol

* **12 Ecological information**

· **Information about elimination (persistence and degradability):**

· **Other information:**

This product is not miscible in water. It acts on water, producing CO₂ and polyurea (a solid, non-fusible and insoluble compound) which is, to the best of our knowledge, inert and non-biodegradable. This reaction is promoted by the presence of surfactants such as liquide soap, or water-soluble solvents. Do not dispose of this product or the neutralization products in sewers, rivers or streams.

· **Ecotoxicological effects:**

· **Acquatic toxicity:**

101-68-8 diphenylmethane-4,4'-di-isocyanate

EC50 (24h) > 1000 mg / l (daphnies)

EC50 (3h) > 100 mg / l (bacteria)

LC 50 (96h) > 1000 mg / l (fish)

13 Disposal considerations

· **Product:**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Dispose of the product by burning in a suitable incinerator or bury in an approved landfill following all applicable local and/or national regulations.

· **European waste catalogue**

08 05 01 | waste isocyanates

· **Uncleaned packaging:**

· **Recommendation:**

Empty containers may not be disposed of unless any remaining material adhering to the internal walls has been removed.

Disposal must be made according to official regulations.

14 Transport information

· **Land transport ADR/RID (cross-border)**

· **ADR/RID class:** -

· **Maritime transport IMDG:**

· **IMDG Class:** -

· **Air transport ICAO-TI and IATA-DGR:**

· **ICAO/IATA Class:** -

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· **Transport/Additional information:** Not dangerous according to the above specifications.

15 Regulatory information

· **Labelling according to EU guidelines:**

The product has been marked in accordance with EU Directives / respective national laws.

· **Code letter and hazard designation of product:**

Xn Harmful

· **Hazard-determining components of labelling:**

diphenylmethane-4,4'-di-isocyanate

· **Risk phrases:**

20 Harmful by inhalation.

36/37/38 Irritating to eyes, respiratory system and skin.

40 Limited evidence of a carcinogenic effect.

42/43 May cause sensitisation by inhalation and skin contact.

48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

· **Safety phrases:**

9 Keep container in a well-ventilated place.

23 Do not breathe gas/fumes/vapour/spray.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37 Wear suitable protective clothing and gloves.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

60 This material and its container must be disposed of as hazardous waste.

· **Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer

· **National regulations:**

· **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant R-phrases**

20 Harmful by inhalation.

36/37/38 Irritating to eyes, respiratory system and skin.

40 Limited evidence of a carcinogenic effect.

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· *** Data compared to the previous version altered.**