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

1.1 Product identifier

Trade name: POLYFLON PTFE TC-7109BK

Article number: 7109BK

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

No further relevant information available.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

DAIKIN INDUSTRIES, LTD. CHEMICALS DIVISION:

Umeda Center Bldg., 4-12, Nakazaki-Nishi 2-chome, Kita-Ku, Osaka, JAPAN

Phone: (+81) 6-6373-4345 Fax: (+81) 6-6373-4281

Further information obtainable from: http://www.daikin.com/

1.4 Emergency telephone number:

+81-6-6349-7521, +1-256-306-5000, +86-512-5-232-0949, +82-2-568-1722, +49-211-179 225-0

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Repr. 1B H360D May damage the unborn child.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

The product is classified and labelled according to the CLP regulation.

Signal word: Danger

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

Contains epoxy constituents. May produce an allergic reaction.

Contains Binder. May produce an allergic reaction.
Safety data sheet

SECTION 3: Composition/information on ingredients

Information on ingredients:

9002-84-0 Polytetrafluoroethylene <5%
Binder 5-15%
1333-86-4 Carbon black <5%
872-50-4 N-methyl-2-pyrrolidone 45-55%
  T Repr. Cat. 2 R61; Xi R36/37/38
  Repr. 1B, H360D; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335
108-10-1 Methyl isobutyl ketone 15-25%
  Xn R20; Xi R36/37; F R11
  R66
  Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335
1330-20-7 Xylene 1-10%
  Xn R20/21; Xi R38
  R10
  Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315
Others 5-15%

SVHC:
872-50-4 N-methyl-2-pyrrolidone

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures
General information: Seek medical treatment.
After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Immediately wash with water and soap and rinse thoroughly.
Remove contaminated clothes immediately.
After eye contact: Immediately rinse with a lot of water for several minutes. Remove contact lenses if possible. Continue rinsing.
After swallowing: Rinse mouth with water. Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and chronic: No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed: No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
Water haze
Water spray
Foam
Fire-extinguishing powder
CO2
Alcohol resistant foam

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture:
Formation of toxic gases is possible during heating or in case of fire.
Receptacle may explode when heated.
Extremely flammable; can ignite easily with heat, sparks, fire.
5.3 Advice for firefighters:
The flash point is extremely low: water spray can be used for a large fire only if other extinguishing means have no
effect.
Remove receptacles from area of fire if possible.

Protective equipment:
Wear self-contained breathing apparatus and protective suit.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:
Ensure adequate ventilation before entering the area.
Stay on the windward side.
Keep out unauthorized persons.
Wear appropriate protective devices (See Section 8 Exposure Controls/ Personal Protection). Avoid contact with eyes
and skin.
Do not swallow the product.

6.2 Environmental precautions: Prevent seepage into sewage system, workpits and cellars.

6.3 Methods and material for containment and cleaning up:
Do not flush with water or aqueous cleansing agents
Ground all equipment when the product leaks.
For a small amount of leakage: Absorb with liquid-binding material (sand, diatomite, acid binders, universal
binders) or collect in an empty container that can be sealed tightly.
For a small amount of leakage: Use clean anti-static tools when absorbing the product.
For a large amount of leakage: Enclose with banks to avoid outflow. Lead the leakage to a safe place and collect.
Remove ignition sources immediately.
There is a danger of explosion. Prepare fire extinguisher in case of emergency.

6.4 Reference to other sections:
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:
Ensure good ventilation/exhaustion at the workplace.
Handle with care. Avoid jolting, friction and impact.
Do not handle until all safety precautions have been read and understood.

Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Use flame proof electric/ lighting devices and ventilation equipment.
Ground/Bond container and receiving equipment.

7.2 Conditions for safe storage, including any incompatibilities:
Storage
Requirements to be met by storerooms and receptacles:
Store in a cool and dry location.
Provide solvent resistant, sealed floor.
Keep receptacle tightly sealed.

Information about storage in one common storage facility:
Store away from oxidising agents.
See section 10 for information on incompatible materials.

Further information about storage conditions:
Protect from heat and direct sunlight.
Store receptacle in a well ventilated area.
Store locked up.

7.3 Specific end use(s): No further relevant information available.
### SECTION 8: Exposure controls/personal protection

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

#### 8.1 Control parameters

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

<table>
<thead>
<tr>
<th>Chemical</th>
<th>OEL (Japan) Long-term value (mg/m³, ppm)</th>
<th>WEEL (USA) Long-term value (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>872-50-4 N-methyl-2-pyrrolidone</td>
<td>4 ppm</td>
<td>10 ppm</td>
</tr>
<tr>
<td>108-10-1 Methyl isobutyl ketone</td>
<td>200 ppm</td>
<td>50 ppm</td>
</tr>
<tr>
<td>1330-20-7 Xylene</td>
<td>217 ppm</td>
<td>50 ppm</td>
</tr>
<tr>
<td>1333-86-4 Carbon black</td>
<td>3,5 ppm</td>
<td>100 ppm</td>
</tr>
</tbody>
</table>

**Ingredients with biological limit values:**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>BEI (USA) Long-term value (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>872-50-4 N-methyl-2-pyrrolidone</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>108-10-1 Methyl isobutyl ketone</td>
<td>1 mg/L</td>
</tr>
</tbody>
</table>

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**Ingredients with biological limit values:**

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</tr>
<tr>
<td>108-10-1 Methyl isobutyl ketone</td>
<td>1 mg/L</td>
</tr>
</tbody>
</table>
Trade name: POLYFLON PTFE TC-7109BK

1330-20-7 Xylene
OEL-B (Japan) 800 mg/l
試料: 尿
試料採取時期: 週末の作業終了時
物質: total (α-, m-, p-)methylhippuric acid
BEI (USA) 1,5 g/g creatinine
Medium: urine
Time: end of shift
Parameter: Methylhippuric acids

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures:
Wash hands before breaks and at the end of work.
Do not eat or drink while working.
Keep away from tobacco products.
Respiratory protection:
Use respiratory protective device with filters for organic and acid gas (or airline respirators in some cases) if formation of toxic gases is possible while the product is heated.
Use respiratory protective device with organic gas cartridge.

Protection of hands:
![Protective gloves]

Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:
![Safety glasses]

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance
Form: Liquid
Colour: Black
Odour: Characteristic
pH-value: No further information available.
Melting point/Melting range: No further information available.
Boiling point/Boiling range: 117 °C (MIBK)
Flash point: -2 °C (SCC)
Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Lower explosive limit: 1,4 Vol % (MIBK)
Upper explosive limit: 7,5 Vol % (MIBK)
Vapour pressure: No further information available.
Density at 25 °C: 1 g/cm³
Solubility in / Miscibility with water: No further information available.
SECTION 10: Stability and reactivity

10.1 Reactivity
10.2 Chemical stability
Thermal decomposition / conditions to be avoided: To avoid thermal decomposition do not overheat.
10.3 Possibility of hazardous reactions: No dangerous reactions known under normal conditions of use.
10.4 Conditions to avoid: Keep away from heat, sparks, flame, high temperature.
10.5 Incompatible materials: Oxidizing agents
10.6 Hazardous decomposition products:
As for decomposition products, particulate matters and extremely toxic/corrosive fumes may be generated (HF, carbonyl fluoride, monomer, perfluoroisobutylene).
Decomposition products differ depending on the temperature and conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
LD/LC50 values relevant for classification:

872-50-4 N-methyl-2-pyrrolidone
Oral LD50 3914 mg/kg (Rat)
Dermal LD50 8000 mg/kg (Rabbit)

108-10-1 Methyl isobutyl ketone
Oral LD50 2080 mg/kg (Rat)
Dermal LD50 16000 mg/kg (Rab)
Inhalative LC50/4 h 8.3-16.6 ppm (Rat)

1330-20-7 Xylene
Oral LD50 4300 mg/kg (Rat)
Dermal LD50 2000 mg/kg (Rabbit)

Primary irritant effect
on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.
after inhalation: No further information available.
Sensitisation: No sensitising effects known.
Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant
General effects:
Fumes generated during burning may cause "polymer fume fever" (flu-like symptoms such as fever, chill, cough).
This may last for a whole day and night.
Fumes are not absorbed in skin. No sensitizing effect known.

Effects of hydrogen fluoride:
Low concentration of hydrogen fluoride may cause feeling of dyspnea, cough, irritation in eyes, nose, throat, fever, chill for 1-2 days.
After that, dyspnea, cyanosis and pulmonary edema may be seen.
High concentration of hydrogen fluoride damages liver and kidney.

Effects of carbonyl fluoride:
Skin: Irritation or eruption
Eye: Ulcer in cornea, conjunctiva
Respiratory system: Irritation
Safety data sheet

Trade name: POLYFLON PTFE TC-7109BK

Lung: Temporary symptoms such as cough, pain, dyspnea
Persons who have experienced lung diseases are vulnerable to toxicity caused by excessive exposure to pyrolysis products

CMR effects
Repr. 1B

Carcinogenicity: No further information available.
Reproductive toxicity: No further information available.
Specific target organ toxicity - repeated exposure: No further information available.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment
PBT: No further relevant information available.
vPvB: No further relevant information available.

12.6 Other adverse effects: No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation: Disposal must be made according to official regulations.

Uncleaned packaging
Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN-Number:
ADR, IMDG, IATA
UN1263

14.2 UN proper shipping name:
ADR: 1263 PAINT
IMDG, IATA PAINT

14.3 Transport hazard class(es):
ADR, IMDG, IATA

Class: 3 Flammable liquids.
Label: 3

14.4 Packing group:
ADR, IMDG, IATA
II

14.5 Environmental hazards:
Marine pollutant: No

14.6 Special precautions for user:
Warning: Flammable liquids.

Danger code (Kemler):
EMS Number: F-E,S-E

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Not applicable.

Transport/Additional information:
Avoid direct sunlight. Make sure of no damage, corrosion, leaks on the receptacles.
Take necessary measures for preventing cargo shift.

ADR
Limited quantities (LQ): 5L
Transport category: 2
Safety data sheet

Trade name: POLYFLON PTFE TC-7109BK

Tunnel restriction code: D/E
UN "Model Regulation": UN1263, PAINT, 3, II

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
Hazard pictograms

- GHS02
- GHS07
- GHS08

Signal word Danger

Hazard-determining components of labelling:
- N-methyl-2-pyrrolidone
- Methyl isobutyl ketone

Hazard statements
- H225 Highly flammable liquid and vapour.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H360D May damage the unborn child.
- H335 May cause respiratory irritation.

Precautionary statements
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations

Other regulations, limitations and prohibitive regulations:
Substances of very high concern (SVHC) according to REACH, Article 57:
872-50-4 N-methyl-2-pyrrolidone

SECTION 16: Other information

The product is for the industrial use only. We do not guarantee the safety in case the product is used for the other purposes. When using the product for health-care application or food/feed application, consult us in advance. 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.

Department issuing SDS: EHS Department
Contact: http://www.daikin.com/

Abbreviations and acronyms:
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Repr. 1B: Reproductive toxicity, Hazard Category 1B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3