

Printing date 15.03.2023

Version number 1

Revision: 15.03.2023

*** SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name: POLYFLON PTFE TC-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:

OSAKA UMEDA TWIN TOWERS SOUTH, 1-13-1 Umeda, Kita-ku, Osaka-shi, Osaka, 530-0001, Japan

Phone: +81-6-6147-9702 Fax: +81-6-6147-9807

Further information obtainable from: <http://www.daikin.com/>**1.4 Emergency telephone number:**

Japan: +81-6-6349-7521

China: +86-532-8388-9090, +86-21-34151689

South Korea: +82-2-568-1722

Americas: CHEMTREC +1-800-424-9300 (Outside US/Canada: +1-703-527-3887)

Europe: +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**Hazard-determining components of labelling:**

N-Methyl-2-pyrrolidone

Reaction mass of ethylbenzene and xylene

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 [or 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.

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Additional information:

EUH208 Contains Epoxy Resin (Number average molecular weight ≤ 700). May produce an allergic reaction.
Restricted to professional users.

*** SECTION 3: Composition/information on ingredients****Information on ingredients:**

CAS: 9002-84-0 Polytetrafluoroethylene	<5%
Binder	5-15%
CAS: 1333-86-4 Carbon black	<5%
CAS: 872-50-4 N-Methyl-2-pyrrolidone	45-55%
Repr. 1B, H360D Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 Specific concentration limit: STOT SE 3; H335: C ≥ 10 %	
CAS: 108-10-1 Methyl isobutyl ketone	15-25%
Flam. Liq. 2, H225 Carc. 2, H351 Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H336 EUH066 ATE: LC50/4h inhalative: 11 ppm	
Reaction mass of ethylbenzene and xylene	1-10%
Flam. Liq. 3, H226 STOT RE 2, H373; Asp. Tox. 1, H304 Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 ATE: LD50 dermal: 1100 mg/kg LC50/4h inhalative: 29 ppm	
Others	5-15%

SVHC:

CAS: 872-50-4 N-Methyl-2-pyrrolidone

Additional information: For the wording of the listed hazard 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:**

Remove contaminated clothes immediately.

Immediately wash with water and soap and rinse thoroughly.

Consult a doctor in case of complaints.

After eye contact:

Immediately rinse with a lot of water for several minutes. Remove contact lenses if possible. Continue rinsing.

Consult an ophthalmologist in case of complaints.

After swallowing:

Rinse mouth with water. Do not induce vomiting.

Consult a doctor in case of complaints.

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.

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*** SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents:**

Foam

Fire-extinguishing powder

CO₂**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 fully protective suit.

Wear self-contained breathing apparatus and protective suit.

Do not inhale explosion gases or combustion gases.

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

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.

Ground all equipment when the product leaks.

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.

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Store in a cool and dry location.

Provide solvent resistant, sealed floor.

Prevent any seepage into the ground.

Use only receptacles specifically permitted for this substance/product.

Keep containers 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 containers 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****8.1 Control parameters** No further information available.**Ingredients with limit values that require monitoring at the workplace:****CAS: 872-50-4 N-Methyl-2-pyrrolidone**OEL (Japan) Long-term value: 4 mg/m³, 1 ppm

WEEL (USA) Long-term value: 10 ppm

Skin

CAS: 108-10-1 Methyl isobutyl ketoneOEL (Japan) Long-term value: 200 mg/m³, 50 ppmPEL (USA) Long-term value: 410 mg/m³, 100 ppmREL (USA) Short-term value: 300 mg/m³, 75 ppmLong-term value: 205 mg/m³, 50 ppmTLV (USA) Short-term value: 307 mg/m³, 75 ppmLong-term value: 82 mg/m³, 20 ppm

BEI

CAS: 1330-20-7 XyleneOEL (Japan) Long-term value: 217 mg/m³, 50 ppmPEL (USA) Long-term value: 435 mg/m³, 100 ppmREL (USA) Short-term value: 655 mg/m³, 150 ppmLong-term value: 435 mg/m³, 100 ppmTLV (USA) Short-term value: 651 mg/m³, 150 ppmLong-term value: 434 mg/m³, 100 ppm

BEI

CAS: 1333-86-4 Carbon blackPEL (USA) Long-term value: 3.5 mg/m³REL (USA) Long-term value: 3.5* mg/m³

*0.1 in presence of PAHs; See Pocket Guide Apps.A+C

TLV (USA) Long-term value: 3* mg/m³

*inhalable fraction

Ingredients with biological limit values:**CAS: 872-50-4 N-Methyl-2-pyrrolidone**

BEI (USA) 100 mg/L

Medium: urine

Time: end of shift

Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone

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Trade name: POLYFLON PTFE TC-7109BK

CAS: 108-10-1 Methyl isobutyl ketone

OEL-B (Japan) 1.7 mg/l

試料: 尿

試料採取時期: 作業終了時

物質: Methylisobutylketone

BEI (USA) 1 mg/L

Medium: urine

Time: end of shift

Parameter: MIBK

CAS: 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 (o-, m-, p-)methylhippuric acid

BEI (USA) 1.5 g/g creatinine

Medium: urine

Time: end of shift

Parameter: Methylhippuric acids

8.2 Exposure controls**Appropriate engineering controls** No further data; see item 7.**Individual protection measures, such as 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.

Hand protection

Protective gloves

Material of gloves: Rubber**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/face 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****Physical state**

Fluid

Colour:

Black

Odour:

Characteristic

Odour threshold:

Not determined.

Melting point/freezing point:

Undetermined.

Boiling point or initial boiling point and boiling range

Undetermined.

Flammability

Not applicable.

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Trade name: POLYFLON PTFE TC-7109BK**Lower and upper explosion limit****Lower explosive limit:**

1.3 Vol % (MIBK)

Upper explosive limit:

9.5 Vol % (MIBK)

Flash point:

-2 °C (SCC)

Ignition temperature:

270 °C

Decomposition temperature:

No further information available.

pH

Not determined.

Viscosity:**Kinematic viscosity**

Not determined.

Dynamic:

Not determined.

Solubility**water:**

No further information available.

Partition coefficient n-octanol/water (log value)

No further information available.

Vapour pressure at 20 °C:

8 hPa

No further information available.

Density and/or relative density**Density at 20 °C:**1 g/cm³

Not determined.

Relative density

Not determined.

Vapour density

Not determined.

Particle characteristics

Not applicable.

9.2 Other information:**Form:**

Liquid

Auto-ignition temperature:

Product is not self-igniting.

Explosive properties:

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Evaporation rate

Not determined.

Information with regard to physical hazard classes**Explosives**

Not applicable

Flammable gases

Not applicable

Aerosols

Not applicable

Oxidising gases

Not applicable

Gases under pressure

Not applicable

Flammable liquids

Highly flammable liquid and vapour.

Flammable solids

Not applicable

Self-reactive substances and mixtures

Not applicable

Pyrophoric liquids

Not applicable

Pyrophoric solids

Not applicable

Self-heating substances and mixtures

Not applicable

Substances and mixtures, which emit flammable gases**in contact with water**

Not applicable

Oxidising liquids

Not applicable

Oxidising solids

Not applicable

Organic peroxides

Not applicable

Corrosive to metals

Not applicable

Desensitised explosives

Not applicable

SECTION 10: Stability and reactivity**10.1 Reactivity** No further relevant information available.**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

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10.6 Hazardous decomposition products:

As for decomposition products, particulate matters and extremely toxic/corrosive fumes may be generated (HF, carbonyl fluoride, monomers, perfluoroisobutylene).

Decomposition products differ depending on the temperature and conditions.

*** SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:**CAS: 872-50-4 N-Methyl-2-pyrrolidone**

Oral LD50 3914 mg/kg (Rat)

Dermal LD50 8000 mg/kg (Rabbit)

CAS: 108-10-1 Methyl isobutyl ketone

Oral LD50 2080 mg/kg (Rat)

Dermal LD50 16000 mg/kg (Rabbit)

Inhalative LC50/4h 8.2-16.4 mg/l (Rat)

CAS: 1330-20-7 Xylene

Oral LD50 4300 mg/kg (Rat)

Dermal LD50 2000 mg/kg (Rabbit)

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity

May damage the unborn child.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

Other information (about experimental toxicology): No further information available.

Subacute to chronic toxicity No further information available.

Additional toxicological information:

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

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

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11.2 Information on other hazards
Endocrine disrupting properties

None of the ingredients is listed.

*** 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 information available.**12.6 Endocrine disrupting properties For information on endocrine disrupting properties see section 11.***12.7 Other adverse effects:***Ecotoxicological effects: no data***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 or ID number****ADR, IMDG, IATA**

UN1263

14.2 UN proper shipping name:**ADR:**

1263 PAINT

IMDG, IATA

PAINT

14.3 Transport hazard class(es):**ADR****Class:**

3 (F1) Flammable liquids.

Label:

3

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.

Hazard identification number (Kemler code):

33

EMS Number:

F-E,S-E

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14.7 Maritime transport in bulk according to IMO instruments**Transport/Additional information:**

Not applicable.

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

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

Transport category:

2

Tunnel restriction code:

D/E

IMDG**Limited quantities (LQ)**

5L

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

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**

No further relevant information available.

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

Reaction mass of ethylbenzene and xylene

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 [or 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.

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**Other regulations, limitations and prohibitive regulations:****Substances of very high concern (SVHC) according to REACH, Article 57:**

CAS: 872-50-4 N-Methyl-2-pyrrolidone

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15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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: Planning Dept.

Contact: <http://www.daikin.com/>

Abbreviations and acronyms:

ADR: Accord relatif au transport international 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

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Repr. 1B: Reproductive toxicity – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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