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Version number 1

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name: POLYFLON PTFE TC-7809BK****Article number: 7809BK****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.

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

9002-84-0 Polytetrafluoroethylene

5-15%

Binder

5-15%

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1333-86-4 Carbon black	<5%
872-50-4 N-Methyl-2-pyrrolidone	40-50%
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	10-20%
Xn R20; Xi R36/37; F R11	
R66	
Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	
108-88-3 Toluene	5-15%
Xn R48/20-63-65; Xi R38; F R11	
R67	
Repr. Cat. 3	
Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	
78-93-3 Butanone	5-15%
Xi R36; F R11	
R66-67	
Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	

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:**

CO2

Fire-extinguishing powder

Dry sand

Alcohol resistant foam

Water haze

Water spray

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: Remove receptacles from area of fire if possible.**Protective equipment:**

Wear self-contained breathing apparatus and protective suit.

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*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

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:

Open and handle receptacle with care.

Prevent formation of aerosols.

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 respiratory protective device available.

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.*

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Trade name: POLYFLON PTFE TC-7809BK**8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****872-50-4 N-Methyl-2-pyrrolidone**OEL (Japan) Long-term value: 4 mg/m³, 1 ppmWEEL (USA) Long-term value: 10 ppm
Skin**108-10-1 Methyl isobutyl ketone**OEL (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 ppm
Long-term value: 205 mg/m³, 50 ppmTLV (USA) Short-term value: 307 mg/m³, 75 ppm
Long-term value: 82 mg/m³, 20 ppm
BEI**108-88-3 Toluene**OEL (Japan) Long-term value: 188 mg/m³, 50 ppmPEL (USA) Long-term value: 200 ppm
Ceiling limit: 300; 500* ppm
*10-min peak per 8-hr shiftREL (USA) Short-term value: 560 mg/m³, 150 ppm
Long-term value: 375 mg/m³, 100 ppmTLV (USA) Long-term value: 75 mg/m³, 20 ppm
BEI**78-93-3 Butanone**OEL (Japan) Long-term value: 590 mg/m³, 200 ppmPEL (USA) Long-term value: 590 mg/m³, 200 ppmREL (USA) Short-term value: 885 mg/m³, 300 ppm
Long-term value: 590 mg/m³, 200 ppmTLV (USA) Short-term value: 885 mg/m³, 300 ppm
Long-term value: 590 mg/m³, 200 ppm
BEI**1333-86-4 Carbon black**PEL (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+CTLV (USA) Long-term value: 3 mg/m³
*inhalable fraction**Ingredients with biological limit values:****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**108-10-1 Methyl isobutyl ketone**

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OEL-B (Japan) 1,7 mg/l
 試料: urine
 試料採取時期: End of shift
 物質: Methylisobutylketone

BEI (USA) 1 mg/L
 Medium: urine
 Time: end of shift
 Parameter: MIBK

108-88-3 Toluene

OEL-B (Japan) 0,6 mg/l
 試料: blood
 試料採取時期: Within 2h prior to end of shift at end of work week
 物質: Toluene

0,06 mg/l
 試料: urine
 試料採取時期: Within 2h prior to end of shift at end of work week
 物質: Toluene

BEI (USA) 0,02 mg/L
 Medium: blood
 Time: prior to last shift of workweek
 Parameter: Toluene

0,03 mg/L
 Medium: urine
 Time: end of shift
 Parameter: Toluene

0,3 mg/g creatinine
 Medium: urine
 Time: end of shift
 Parameter: o-Cresol with hydrolysis (background)

78-93-3 Butanone

OEL-B (Japan) 5 mg/l
 試料: urine
 試料採取時期: End of shift or a few hours after high exposure
 物質: Methylethylketone

BEI (USA) 2 mg/L
 Medium: urine
 Time: end of shift
 Parameter: MEK

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.

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Trade name: **POLYFLON PTFE TC-7809BK****Protection of hands:**

Protective gloves

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

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:	No further information available.
Flash point:	12 °C (SCC)
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Lower explosive limit:	1,3 Vol %
Upper explosive limit:	9,5 Vol %
Vapour pressure:	No further information available.
Density:	No further information available.
Solubility in / Miscibility with water:	No further information available.
Partition coefficient (n-octanol/water):	No further information available.
9.2 Other information:	No further relevant 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.

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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)

108-88-3 Toluene

Oral LD50 5000 mg/kg (Rat)

Dermal LD50 12124 mg/kg (Rabbit)

Inhalative LC50/4 h 5320 ppm (Mouse)

Primary irritant effect

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

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

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.

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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): 33

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

Tunnel restriction code: D/E

IMDG

Limited quantities (LQ) 5L

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.

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Trade name: **POLYFLON PTFE TC-7809BK**

Hazard pictograms



GHS02 GHS07 GHS08

Signal word Danger

Hazard-determining components of labelling:

N-Methyl-2-pyrrolidone

Toluene

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 No further information available.

Other regulations, limitations and prohibitive regulations: No further information available.

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