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Version number 5

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name: ZEFFLE GK-580****Article number: GK580****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:**

Japan: +81-6-6349-7521

China: +86-512-5-232-0949, +86-21-34151689

South Korea: +82-2-568-1722

Americas: +1-256-306-5000

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. 3 H226 Flammable liquid and vapour.



STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

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.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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

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:**

Tetrafluoroethylene copolymer	45-55%
8052-41-3 Mineral spirits(contain the following solvents)	45-55%
T Carc. Cat. 2, Muta. Cat. 2 R45-46; Xn R48/20-65	
Flam. Liq. 3, H226	
Muta. 1B, H340; Carc. 1B, H350; STOT RE 1, H372; Asp. Tox. 1, H304	

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25551-13-7 Trimethylbenzene	5-15%
1330-20-7 Xylene	< 5%
Xn R20/21; Xi R38	
R10	
Flam. Liq. 3, H226	
Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	
100-41-4 Ethylbenzene	< 1%
Xn R20-48/20-65; F R11	
Flam. Liq. 2, H225	
STOT RE 2, H373; Asp. Tox. 1, H304	
Acute Tox. 4, H332	
108-67-8 1,3,5-Trimethylbenzene	< 5%
Xi R37; N R51/53	
R10	
Flam. Liq. 3, H226	
Aquatic Chronic 2, H411	
STOT SE 3, H335	
95-63-6 1,2,4-Trimethylbenzene	< 5%
Xn R20; Xi R36/37/38; N R51/53	
R10	
Flam. Liq. 3, H226	
Aquatic Chronic 2, H411	
Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	

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:

Immediately wash with water and soap and rinse thoroughly.

Remove contaminated clothes immediately.

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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

Dry sand

Fire-extinguishing powder

CO₂

Alcohol resistant foam

Water haze

Water spray

For safety reasons unsuitable extinguishing agents: Water with full jet

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SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters *No further information available.*

Ingredients with limit values that require monitoring at the workplace:

108-67-8 1,3,5-Trimethylbenzene

IOELV (EU) Long-term value: 100 mg/m³, 20 ppm

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 the product is heated above 180 °C and toxic gases is formed.

Use respiratory protective device with organic gas cartridge.

Protection of hands:



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 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: Light yellow
Odour: Aromatic

pH-value: *No further information available.*

Melting point/Melting range: *No further information available.*

Boiling point/Boiling range: *No further information available.*

Flash point: 40 °C (SCC)

Explosion limits:

Lower explosive limit: *No further information available.*

Upper explosive limit: *No further information available.*

Vapour pressure: *No further information available.*

Density at 20 °C: 0,958 g/cm³

Relative density: *Not determined.*

Solubility in / Miscibility with water:

No further information available.

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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 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

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 toxicological effects

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

LD/LC50 values relevant for classification: No further information available.

Primary irritant effect

Skin corrosion/irritation No further information available.

Serious eye damage/irritation No further information available.

after inhalation: No further information available.

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

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

CMR effects

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

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

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

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

May be fatal if swallowed and enters airways.

Chronic study No further information available.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

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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 III

14.5 Environmental hazards:

Marine pollutant: No

14.6 Special precautions for user: Warning: Flammable liquids.

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

Excepted quantities (EQ) Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

IMDG

Excepted quantities (EQ) Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN1263, PAINT, 3, III

* SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No further relevant information available.

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Trade name: ZEFFLE GK-580**Hazard pictograms**

GHS02 GHS08

Signal word Danger**Hazard-determining components of labelling:**

Solvent naphtha

Hazard statements

H226 Flammable liquid and vapour.

H372 Causes damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

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.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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

P405 Store locked up.

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

National regulations No further information available.**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: EHS Department**Contact:** <http://www.daikin.com/>**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Asp. Tox. 1: Aspiration hazard – Category 1

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