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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** ZEFFLE GK-500**Article number:** GK500**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 SE 3 H336 May cause drowsiness or dizziness.

**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:** Warning**Precautionary statements:**

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

P281 Use personal protective equipment as required.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER/doctor if you feel unwell.

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	55-65%
CAS: 123-86-4 n-Butyl acetate	35-45%
R10-66-67	
Flam. Liq. 3, H226	
STOT SE 3, H336	

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

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## **SECTION 4: First aid measures**

### **4.1 Description of first aid measures**

**General information:** Seek immediate medical advice.

**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 contact with the molten product, cool rapidly with cold water.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:**

If symptoms persist consult a doctor.

Rinse mouth with water. Do not induce vomiting.

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

**Information for doctor:**

Vapors and fumes liberated during hot processing with this material may cause flu-like symptoms (chills, fever and, sometimes, cough) that may not occur until several hours after exposure and typically pass within about 36 to 48 hours.

**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:**

$CO_2$

Dry sand

Fire-extinguishing powder

Alcohol resistant foam

Water spray

Water haze

**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.

**5.3 Advice for firefighters:** Remove receptacles from area of fire if possible.

**Protective equipment:**

Do not inhale explosion gases or combustion gases.

Wear self-contained breathing apparatus and protective suit.

Wear fully protective suit.

## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures:**

Wear appropriate protective devices (See Section 8 Exposure Controls/Personal Protection).

Avoid contact with eyes and skin.

Do not inhale the product.

Keep away from ignition sources.

**6.2 Environmental precautions:** Do not allow to enter sewers/surface or ground water.

### **6.3 Methods and material for containment and cleaning up:**

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.

Do not flush with water or aqueous cleansing agents

### **6.4 Reference to other sections:**

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling:**

Use only in well ventilated areas.

Extractors are required on all machines used for thermal processing or powder handling processes.

### **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

### **7.2 Conditions for safe storage, including any incompatibilities:**

#### **Storage**

##### **Requirements to be met by storerooms and receptacles:**

Make floor, wall and columns of the storage location fire-resistant construction. Make beams noncombustible construction.

Store in a cool and dry location.

Provide solvent resistant, sealed floor.

**Information about storage in one common storage facility:** Store away from oxidising agents.

##### **Further information about storage conditions:**

Keep container tightly sealed.

Protect from heat and direct sunlight.

Store containers in a well ventilated area.

Store under lock and key and with access restricted to technical experts or their assistants only.

### **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:**

#### **CAS: 123-86-4 n-Butyl acetate**

OEL (Japan) 475 mg/m<sup>3</sup>, 100 ppm

PEL (USA) 710 mg/m<sup>3</sup>, 150 ppm

REL (USA) Short-term value: 950 mg/m<sup>3</sup>, 200 ppm  
Long-term value: 710 mg/m<sup>3</sup>, 150 ppm

TLV (USA) Short-term value: 950 mg/m<sup>3</sup>, 200 ppm  
Long-term value: 713 mg/m<sup>3</sup>, 150 ppm

### **8.2 Exposure controls**

#### **Personal protective equipment**

##### **General protective and hygienic measures:**

Wash hands before breaks and at the end of work.

Keep away from tobacco products.

Do not eat or drink while working.

##### **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.

##### **Protection of hands:**



Protective gloves

**Material of gloves:** Rubber

**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.

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**Trade name: ZEFFLE GK-500****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**

<b>Form:</b>	Liquid
<b>Colour:</b>	Light yellow
<b>Odour:</b>	Aromatic
<b>pH-value:</b>	No further information available.
<b>Melting point/freezing point:</b>	No further information available.
<b>Initial boiling point and boiling range:</b>	124-125 °C (As n-butyl acetate)
<b>Flash point:</b>	29 °C (SCC)
<b>Auto-ignition temperature:</b>	Product is not selfigniting.
<b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
<b>Explosion limits:</b>	
<b>Lower explosive limit:</b>	1,7 Vol % (As n-butyl acetate)
<b>Upper explosive limit:</b>	7,6 Vol % (As n-butyl acetate)
<b>Vapour pressure:</b>	-
<b>Density:</b>	
<b>Relative density at 20 °C</b>	1.12
<b>Solubility in / Miscibility with water:</b>	No further information available.
<b>Partition coefficient: n-octanol/water:</b>	No further information available.
<b>9.2 Other information:</b>	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:** Danger of toxic fluorine based pyrolysis products.**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity** no data**LD/LC50 values relevant for classification:** No further information available.**Primary irritant effect****Skin corrosion/irritation** Based on available data, the classification criteria are not met.**Serious eye damage/irritation** Based on available data, the classification criteria are not met.**after inhalation:** No further information available.**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.**CMR effects****Carcinogenicity** Based on available data, the classification criteria are not met.

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**Trade name: ZEFFLE GK-500****Reproductive toxicity** Based on available data, the classification criteria are not met.**STOT-single exposure**

May cause drowsiness or dizziness.

**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.**Chronic study** 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, solution**IMDG, IATA** PAINT, solution

### 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.**Danger code (Kemler):** 30**EMS Number:** F-E,S-D

### 14.7 Transport in bulk according to Annex II of

**MARPOL73/78 and the IBC Code:** Not applicable.

### Transport/Additional information:

**ADR****Limited quantities (LQ):** 5L**Transport category:** 3**Tunnel restriction code:** D/E**UN "Model Regulation":** UN1263, PAINT, solution, 3, III

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**Trade name: ZEFFLE GK-500****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

**Signal word** Warning**Hazard-determining components of labelling:***n-Butyl acetate***Hazard statements***H226 Flammable liquid and vapour.**H336 May cause drowsiness or dizziness.***Precautionary statements***P241 Use explosion-proof electrical/ventilating/lighting equipment.**P281 Use personal protective equipment as required.**P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.**P312 Call a POISON CENTER/doctor if you feel unwell.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***Directive 2012/18/EU****Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t**Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t**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:***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 SE 3: Specific target organ toxicity (single exposure) – Category 3*