

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name: ZEFFLE GK-510****Article number: GK510****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: 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. 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**Hazard-determining components of labelling:**

n-Butyl acetate

**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].

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

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%
CAS: 123-86-4 n-Butyl acetate	45-55%
Flam. Liq. 3, H226	
STOT SE 3, H336	
EUH066	

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*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:**

Fire-extinguishing powder

CO<sub>2</sub>

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.

Extremely flammable; can ignite easily with heat, sparks, fire.

**5.3 Advice for firefighters:**

**Protective equipment:**

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:**

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.

Ground all equipment when the product leaks.

**6.4 Reference to other sections:**

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling:***Ensure good ventilation/exhaustion at the workplace.**Never allow exposure to sunlight or strong light until after curing.**Do not handle until all safety precautions have been read and understood.**Handle with care. Avoid jolting, friction and impact.***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 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: 123-86-4 n-Butyl acetate***OEL (Japan) Long-term value: 475 mg/m<sup>3</sup>, 100 ppm**PEL (USA) Long-term value: 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****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

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**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.

**Eyeface 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**

<b>Physical state</b>	Fluid
<b>Colour:</b>	Light yellow
<b>Odour:</b>	Aromatic
<b>Melting point/freezing point:</b>	No further information available.
<b>Boiling point or initial boiling point and boiling range</b>	124-125 °C (As n-butyl acetate)
<b>Flammability</b>	Not applicable.
<b>Lower and upper explosion limit</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>Flash point:</b>	25 °C (SCC)
<b>Decomposition temperature:</b>	No further information available.
<b>pH</b>	No further information available.
<b>Solubility</b>	
<b>water:</b>	No further information available.
<b>Partition coefficient n-octanol/water (log value)</b>	No further information available.
<b>Vapour pressure:</b>	-
<b>Density and/or relative density</b>	
<b>Relative density at 20 °C</b>	1.06
<b>Vapour density</b>	No further relevant information available.
<b>Particle characteristics</b>	No further relevant information available.

**9.2 Other information:**

<b>Appearance</b>	
<b>Form:</b>	Liquid
<b>Auto-ignition temperature:</b>	Product is not self-igniting.
<b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

**Information with regard to physical hazard classes**

<b>Explosives</b>	Not applicable
<b>Flammable gases</b>	Not applicable
<b>Aerosols</b>	Not applicable
<b>Oxidising gases</b>	Not applicable
<b>Gases under pressure</b>	Not applicable
<b>Flammable liquids</b>	
<b>Flammable liquid and vapour.</b>	
<b>Flammable solids</b>	Not applicable
<b>Self-reactive substances and mixtures</b>	Not applicable
<b>Pyrophoric liquids</b>	Not applicable
<b>Pyrophoric solids</b>	Not applicable
<b>Self-heating substances and mixtures</b>	Not applicable
<b>Substances and mixtures, which emit flammable gases</b>	
<b>in contact with water</b>	Not applicable
<b>Oxidising liquids</b>	Not applicable
<b>Oxidising solids</b>	Not applicable
<b>Organic peroxides</b>	Not applicable

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Corrosive to metals  
Desensitised explosives

Not applicable  
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

**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:** No further information available.

**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.

**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** 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.

**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

**11.2 Information on other hazards**

**Endocrine disrupting properties**

None of the ingredients is listed.

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**\* 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 Endocrine disrupting properties For information on endocrine disrupting properties see section 11.***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, 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.**Hazard identification number (Kemler code):** 30**EMS Number:** F-E,S-D**14.7 Maritime transport in bulk according to IMO instruments**

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

**Transport category:** 3**Tunnel restriction code:** D/E**IMDG****Limited quantities (LQ)** 5L

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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, solution, 3, III

**\* 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**

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].

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

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 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

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

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

\* Data compared to the previous version altered.