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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:**

+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 according to Regulation (EC) No 1272/2008:**

Flam. Liq. 3 H226 Flammable liquid and vapour.



STOT SE 3 H336 May cause drowsiness or dizziness.

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.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

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

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P314 Get medical advice/attention if you feel unwell.

P303+P352 IF ON SKIN (or hair): Wash with plenty of soap and water.

P305+P351 IF IN EYES: Rinse cautiously with water for several minutes.

P405 Store locked up.

P403+P233+P235 Store in a well-ventilated place. Keep container tightly closed and cool.

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

SECTION 3: Composition/information on ingredients**3.1 Chemical characterization**

Tetrafluoroethylene copolymer 45-55%

123-86-4 n-butyl acetate 45-55%

R10-66-67

Flam. Liq. 3, H226; STOT SE 3, H336

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.

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Trade name: ZEFFLE GK-510**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**CO2**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.**See Section 13 for disposal information.***SECTION 7: Handling and storage****7.1 Precautions for safe handling:***Ensure good ventilation/exhaustion at the workplace.**Install extractors.**Do not handle until all safety precautions have been read and understood.**Handle with care. Avoid jolting, friction and impact.*

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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 receptacle tightly sealed.

Information about storage in one common storage facility:

Store away from oxidizing 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.

8.1 Control parameters No further information available.

Ingredients with limit values that require monitoring at the workplace:

123-86-4 n-butyl acetate

OEL (Japan) Long-term value: 475 mg/m³, 100 ppm

PEL (USA) Long-term value: 710 mg/m³, 150 ppm

REL (USA) Short-term value: 950 mg/m³, 200 ppm

Long-term value: 710 mg/m³, 150 ppm

TLV (USA) Short-term value: 950 mg/m³, 200 ppm

Long-term value: 713 mg/m³, 150 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 formation of toxic gases is possible while the product is heated.

Use respiratory protective device with organic gas cartridge.

Protection of hands: Protective gloves

Material of gloves: Rubber

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: 124-125 °C (As n-butyl acetate)

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Flash point:	25 °C (SCC)
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	
Decomposition temperature:	No further information available.
Self-igniting:	Product is not selfigniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Lower explosive limit:	1,7 Vol % (As n-butyl acetate)
Upper explosive limit:	7,6 Vol % (As n-butyl acetate)
Vapour pressure:	No further information available.
Density:	
Relative density at 20 °C	1,06
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.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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

Primary irritant effect

on the skin: No irritant effect known.

on the eye: No irritant effect known.

after inhalation: No further information available.

Sensitization: No sensitizing effects known.

Additional toxicological information:

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

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pyrolysis products

CMR effects

Germ cell mutagenicity: No further information available.

Carcinogenicity: No further information available.

Reproductive toxicity: No further information available.

Aspiration hazard: No further information available.

Specific target organ toxicity - single exposure: 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.

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:

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

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IMDG

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

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

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

P281 Use personal protective equipment as required.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

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

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P314 Get medical advice/attention if you feel unwell.

P303+P352 IF ON SKIN (or hair): Wash with plenty of soap and water.

P305+P351 IF IN EYES: Rinse cautiously with water for several minutes.

P405 Store locked up.

P403+P233+P235 Store in a well-ventilated place. Keep container tightly closed and cool.

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.

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 Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (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 Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3