

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6 Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Substances / Trade name: Kaiflex Special Adhesive 494 HHF
UFI: T0XF-RJXT-8C03-7E0G

Index No.: Not applicable.

EC No.: Not applicable.

CAS No.: Not applicable.

REACH Registration No.: Not applicable.

Other means of identification: Glue 494, glue hexan-/ halogen-free

1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Application of the substance / the mixture:

Adhesives.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier

Kaimann GmbH

Address

Hansastraße 2-5
D-33161 Hövelhof

Information contact

Kaimann GmbH - Technik

Phone / Fax / E-Mail

+49 (0) 5257-9850-0 / +49 (0) 5257-9850-590 / E-Mail: msds@kaimann.de

1.4 Emergency telephone number

Advice Center for Poison Symptoms and Embryo Toxicology (Emergency Phone Line Berlin / Giftnotruf Berlin)

Tel.: +49 (0) 30 -1 92 40 · www.giftnotruf.de

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

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Version: 6

Replaces version: 5

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



Flam. Liq. 2

GHS02 Flame

H225 Highly flammable liquid and vapour.



Eye Irrit. 2

Skin Sens. 1

STOT SE 3

GHS07

H319 Causes serious eye irritation.

H317 Can cause allergic skin reaction.

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.

Hazard pictograms:



GHS02



GHS07

Signal word: Danger.

Hazard-determining components of labelling:

2-Butanone

Polymers carbodiimide

Acetone

Hazard statements:

H225

Highly flammable liquid and vapour.

H319

Causes serious eye irritation.

H317

Can cause allergic skin reaction.

H336

May cause drowsiness or dizziness.

Page: 2 / 21

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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].
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove any contact lenses if possible. Continue to rinse.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information

EUH066 Repeated exposure may cause skin dryness or cracking.
The product contains: Notifiable explosives precursors. Provision, transfer, possession and use in accordance with Regulation (EU) 2019/1148, Article 9.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition / information on ingredients

3.2 Mixtures

Description: Adhesive, Polyurethane resin.

Dangerous components

2-BUTANONE	Registration number.: 01- 2119457290-43; 01-2119943742-35 EINECS: 201-159-0; CAS: 78-93-3; Proportion: 25-< 35 % Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336
ACETONE	Registration number: 01-2119471330-49 EINECS: 200-662-2; CAS: 67-64-1; Proportion: 25-< 35 % Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336
METHYLISOBUTYLKETONE	Registration number: 01-2119473980-30 EINECS: 203-550-1; CAS: 108-10-1; Proportion: 5-< 10 % Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H336

Page: 3 / 21

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Kaimann GmbH

Safety Data Sheet

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PROPYLACETATE

Registration number: 01-2119484620-39

EINECS: 203-686-1; CAS: 109-60-4; Proportion: 2,5-< 5 %

Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336

POLYMERS CARBODIIMIDE

CAS: 1246080-54-5; Proportion: 1-< 2,5 %

Skin Sens. 1, H317

SVHC

Not applicable.

Additional information:

If any R-phrases (risk-phrases) are listed, please refer for the exact wording to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Instantly remove any clothing soiled by the product.

Take affected persons into the open air.

After inhalation:

Supply plenty of fresh air and seek medical attention for safety reasons.

In case of unconsciousness, position and transport in stable lateral position.

Supply fresh air, consult a doctor in case of complaints.

After skin contact:

Instantly wash with water and soap and rinse thoroughly.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult physician.

After swallowing:

In case of persistent symptoms consult physician.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

If swallowed or in case of vomiting, danger of entering the lungs.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Foam extinguishing agent, CO₂, sand, extinguishing powder or water spray.
Fight larger fire with alcohol-resistant foam.

For safety reasons unsuitable extinguishing agents: Water with a full water jet.

Page: 4 / 21

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5.2 Special hazards arising from the substance or mixture

In the event of a fire, the following may be released:
Carbon monoxide (CO).

5.3 Advice for fire-fighters

Protective equipment:

Wear self-contained breathing apparatus.
Do not inhale explosion gases or combustion gases.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing.

6.2 Environmental precautions

Do not allow product to reach sewage system or water bodies.
Prevent material from reaching sewage system, holes and cellars.
Prevent from spreading (e.g. by damming-in or oil barriers).

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.

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 information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Store in cool, dry place in tightly closed containers.
Open and handle container with care.
Ensure that suitable extractors are available on processing machines. In the context of the risk assessment, it is necessary to evaluate whether and to what extent protective measures are required. If necessary, a workplace measurement has to be carried out.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Information about protection against explosions and fires

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Use only in explosion-proof area.
Highly volatile, flammable constituents are released during processing.
Fumes can combine with air to form an explosive mixture.
Flammable mixtures may be formed in empty containers.

Page: 5 / 21

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7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and containers:

Store in cool location.

Prevent any penetration into the ground.

Information about storage in one common storage facility: Not required.

Further information about storage conditions

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Storage class: 3

7.3 Specific end use(s)

No further relevant information available.

GISCode S1

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with critical values that require monitoring in the workplace

2-BUTANONE
(CAS: 78-93-3) IOELV (European Union):
Long-term value: 600 mg/m³, 200 ppm

ACETONE
(CAS: 67-64-1) IOELV (European Union):
Long-term value: 1200 mg/m³, 500 ppm

METHYLISOBUTYLKETONE
(CAS: 108-10-1) IOELV (European Union):
Long-term value: 83 mg/m³, 20 ppm

PROPYLACETATE
(CAS: 109-60-4) IOELV (European Union):
Long-term value: 420 mg/m³, 100 ppm

Regulatory information:

IOELV (European Union): (EU) 2017/164.

Derived no-effect level (DNELs)

Worker:

2-BUTANONE
(CAS: 78-93-3) Dermal:
DNEL w 1161 mg/kg bw/day (long-term, systemic effect).
Inhalation:
DNEL w 600 mg/m³ (long-term, systemic effect)

ACETONE
(CAS: 67-64-1) Dermal:
DNEL w 186 mg/kg bw/day (long-term, systemic effect).
Inhalation:
DNEL w 2420 mg/m³ (acute, systemic effect)
DNEL w 1210 mg/m³ (long-term, systemic effect)

Page: 6 / 21

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Print date: 6th September 2022
Revision date: 4th November 2021
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Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

METHYLISOBUTYLKETONE
(CAS: 108-10-1)

Dermal:
DNEL w 11.8 mg/kg bw/day (long-term, systemic effect).
Inhalation:
DNEL w 208 mg/m³ (acute, local effect)
DNEL w 208 mg/m³ (acute, systemic effect)
DNEL w 83 mg/m³ (long-term, local effect)
DNEL w 83 mg/m³ (long-term, systemic effect)

PROPYLACETATE
(CAS: 109-60-4)

Inhalation:
DNEL w 840 mg/m³ (acute, local effect)
DNEL w 840 mg/m³ (acute, systemic effect)
DNEL w 420 mg/m³ (long-term, local effect)
DNEL w 420 mg/m³ (long-term, systemic effect)

DNEL-Values

Consumer:

2-BUTANONE
(CAS: 78-93-3)

Oral:
DNEL c 31 mg/kg bw/day (long-term, systemic effect)
Dermal:
DNEL c 412 mg/kg bw/day (long-term, systemic effect)
Inhalation:
DNEL c 106 mg/m³ (long-term, systemic effect)

ACETONE
(CAS: 67-64-1)

Oral:
DNEL c 62 mg/kg bw/day (long-term, systemic effect)
Dermal:
DNEL c 62 mg/kg bw/day (long-term, systemic effect)
Inhalation:
DNEL c 200 mg/m³ (long-term, systemic effect)

METHYLISOBUTYLKETONE
(CAS: 108-10-1)

Oral:
DNEL c 4.2 mg/kg bw/day (long-term, systemic effect).
Dermal:
DNEL c 4.2 mg/kg bw/day (long-term, systemic effect)
Inhalation:
DNEL c 155.2 mg/m³ (acute, local effect)

PROPYLACETATE
(CAS: 109-60-4)

Inhalative:
DNEL c 298 mg/m³ (acute, local effect)
DNEL c 298 mg/m³ (acute, systemic effect)
DNEL c 149 mg/m³ (long-term, local effect)
DNEL c 149 mg/m³ (long-term, systemic effect)

Predicted no-effect concentration (PNECs)

2-BUTANONE
(CAS: 78-93-3)

PNEC oral 1000 mg/kg food (n.a.)
PNEC water 55,8 mg/l (fresh water)
PNEC water 55,8 mg/l (periodic release)
PNEC water 55,8 mg/l (marine water)
PNEC water 709 mg/l (sewage treatment plant)
PNEC sediment 284,7 mg/kg (sediment, fresh water)
PNEC sediment 284.7 mg/kg (sediment, seawater)

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Replaces version: 5

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ACETONE (CAS: 67-64-1)	PNEC water 10.6 mg/l (fresh water) PNEC water 21 mg/l (periodic release) PNEC water 1,06 mg/l (sea water) PNEC water 100 mg/l (sewage treatment plant) PNEC sediment 30,4 mg/kg (sediment, fresh water) PNEC sediment 3,04 mg/kg (sediment, seawater) PNEC soil 29.5 mg/kg (soil)
METHYLISOBUTYLKETONE (CAS: 108-10-1)	PNEC water 0,6 mg/l (fresh water) PNEC water 1,5 mg/l (periodical release) PNEC water 0,06 mg/l (sea water) PNEC water 27,5 mg/l (sewage treatment plant) PNEC sediment 8,27 mg/kg (sediment, fresh water) PNEC sediment 0,83 mg/kg (sediment, sea water) PNEC soil 1.3 mg/kg (soil)
PROPYLACETATE (CAS: 109-60-4)	PNEC water 0,06 mg/l (fresh water) PNEC water 0,6 mg/l (periodical release) PNEC water 0,006 mg/l (sea water) PNEC water 1 mg/l (sewage treatment plant) PNEC sediment 0,16 mg/kg (sediment, fresh water) PNEC sediment 0.016 mg/kg (sediment, seawater)

Components with biological limits

2-BUTANONE (CAS: 78-93-3)	BLV: 2 mg/l Test material: urine sampling time: end of exposure or end of shift Parameter: 2-butanone
ACETONE (CAS: 67-64-1)	BLV: 80 mg/l Test material: urine Sampling time: end of exposure or end of shift. Parameter: Acetone
METHYLISOBUTYLKETONE (CAS: 108-10-1)	BLV: 0.7 mg/l Test material: urine sampling time: end of exposure or end of shift Parameter: 4-methyl-pentan-2-one

Regulatory information:

IOELV (European Union): (EU) 2017/164.

Additional information: The lists that were valid during the compilation were used as basis.

8.2 Exposure controls

Additional information about design of technical systems

No further data; see item 7.

Personal protective equipment:

General protective and hygienic measures:

Standard precautionary measures for handling chemicals are to be observed.
Keep away from food, beverages and animal feed.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of work.

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KAIFLEX® Special Adhesive 494 HHF

Do not inhale gases/vapors/aerosols.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment:

Use breathing protection in case of insufficient ventilation (EN 14387).
Filter AX (boiling point < 61 °C); Filter A (boiling point > 60 °C).
Only when applied by spray methods, if no adequate extraction system is in place (EN 149).
Filter A/P2.

Protection of hands:

In case of direct contact with the liquid material (e.g. during cleaning work): Gloves.
Otherwise, no hand protection is required.
Impervious gloves (EN 374).

Material of gloves:

LLDPE gloves.
Butyl rubber, BR.
Chloroprene rubber, CR.

Penetration time of glove material:

The exact time limit until penetration has to be found out from the manufacturer of the protective gloves; please ensure that this value is not exceeded.

Gloves made of the following material are suitable for the permanent contact with this material in work areas which do not have an above-average risk of injury (e.g. laboratories):

LLDPE gloves.

For the permanent contact gloves made of the following materials are suitable:

LLDPE gloves.

For permanent contact of max. 15 minutes, gloves made of the following materials are suitable:

Butyl rubber, BR.

To protect against splashing, gloves made of the following materials are suitable:

Chloroprene rubber, CR.

Not suitable are gloves made of the following materials:

Leather gloves.
Fabric gloves.

Eye protection:

Safety glasses recommended during refilling and spraying.
Safety glasses.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	fluid
Colour:	according to product specification
Smell:	characteristic
Odour threshold:	Not determined.
pH-value:	Not determined.
Change in condition:	

Page: 9 / 21

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Melting point/freezing point:	Not determined.
Initial boiling point and boiling range:	55,8-56,6 °C
Flash point:	- 18 °C
Inflammability (solid, gaseous):	Not applicable.
Ignition temperature:	448 °C
Decomposition temperature:	Not determined.
Spontaneous combustion:	Product does not undergo spontaneous combustion.
Explosive properties:	Product is not explosive. However, formation of explosive air/steam mixtures is possible.
Critical values for explosion:	
Lower:	1,3 Vol %
Upper:	13 Vol %
Vapour pressure at 20 °C:	247 hPa
Density at 20 °C:	0.88 g/cm ³
Relative density:	Not determined.
Vapour density:	Not determined.
Evaporation rate:	Not determined.
Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
distribution ratio (n-octanol/water):	Not determined.
Viscosity:	
dynamic at 20 °C:	2500 mPas
kinematic:	Not determined.
Solvent content:	
Organic solvents:	72.4 %
Solid content:	28.0 %

9.2 Other information

VOC - Volatile Organic Compounds

European Union	72.41 %
Switzerland	72.41 %
U.S.A. (less water and less exempts)	564.3 g/l / 4.71 lb/gl

SECTION 10: Stability and reactivity

10.1 Reactivity

No further relevant information available.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions

Forms explosive gas mixture with air.
Develops readily flammable gases / fumes.
Reacts with strong acids and alkali.
Used empty containers may contain product gases which form explosive mixtures with air.
Forms explosive gas mixture with air.
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.

Safety Data Sheet

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Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6 Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

Hydrocarbons
Inflammable gases/vapours
Carbon monoxide and carbon dioxide

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 that are relevant for classification:

2-BUTANONE (CAS: 78-93-3)	Oral: LD50 oral 2,193 mg/kg (rat) (OECD 423) Dermal: LD50 dermal >5,000 mg/kg (rabbit) (OECD 402) Inhalation: LC50 / 4 h 40 mg/kg (mouse) LC50 / 4 h 34.5 mg/kg (rat)
ACETONE (CAS: 67-64-1)	Oral: LD50 oral 3.592 mg/kg (rat) Dermal: LD50 dermal 15,688 mg/kg (rabbit) Inhalation: LC50 / 4 h 76 mg/l (rat)
METHYLISOBUTYLKETONE (CAS: 108-10-1)	Oral: LD50 oral 2,100 mg/kg (rat) Dermal: LD50 dermal 16,000 mg/kg (rabbit) Inhalation: LC50 / 4 h 11 mg/l (rat)
PROPYLACETATE (CAS: 109-60-4)	Oral: LD50 oral 8,700 mg/kg (rat) Dermal: LD50 dermal 17,800 mg/kg (rabbit) Inhalation: LC50 / 4 h 32 mg/l (rat)

Primary irritant effect:

To the skin:

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

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Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

To the eye:

Causes serious eye irritation

Respiratory or skin sensitisation:

Can cause allergic skin reactions.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):

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.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

2-BUTANONE
(CAS: 78-93-3)

LC50 / 96 h: >3,000 mg/l (golden orfe) (OECD 203)
LC50 / 96 h: 2,993 mg/l (fathead minnow)
LC50 / 48 h: 1,723 mg/l (large water flea) (OECD 202)
LC0: 4,400-4,800 mg/l (golden orfe)
LC0: 1,150 mg/l (pseudomonas putida)
EC50 / 48 h: >100 mg/l (large water flea)
EC0: 2,000-2,600 mg/l (large water flea)
IC0: 4,300 mg/l (green algae)

ACETONE
(CAS: 67-64-1)

LC50 / 96 h: 5,540 mg/l (rainbow trout)
LC50 / 48 h: 7,500 mg/l (golden orfe)
EC50 / 48 h: 8,800 mg/l (large water flea)
EC50 / 16 h: 1,700 mg/l (activated sludge)
NOEC: 3,400 mg/l (green algae)

METHYLISOBUTYLKETONE
(CAS: 108-10-1)

LC50 / 96 h (dynamic): 505-540 mg/l (fathead minnow)
LC50 / 48 h: 900 mg/l (golden orfe)
LC0: 480-720 mg/l (golden orfe)
EC50 / 48 h: 980 mg/l (freshwater algae)
EC50 / 24 h (static): 862 mg/l (large water flea)
EC0: 474-2,280 mg/l (large water flea)
1,430 mg/l (freshwater algae)
NOEC 78 mg/l (large water flea)

PROPYLACETATE
(CAS: 109-60-4)

LC50 / 96 h: 60 mg/l (fathead minnow)
LC50 / 48 h (static): 194 mg/l (golden orfe)
EC50 / 48 h: 91.5 mg/l (large water flea) (OECD 202)
EC50 / 24 h: 318 mg/l (large water flea)
EC50 / 24 h: >100 mg/l (freshwater algae)

12.2 Persistence and degradability

No further relevant information available.

Page: 12 / 21

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Kaimann GmbH

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
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Version: 6 Replaces version: 5

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12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Ecotoxicological effects:

Behaviour in sewage plants:

METHYLISOBUTYLKETONE EC10 / 16 h (static): 360 mg/l (pseudomonas putida)
(CAS: 108-10-1) 310 mg/l (freshwater algae)

Additional ecological information:

CSB-value:

ACETONE CSB: 2210 mg/g (n.a.)
(CAS: 67-64-1)

General notes:

Water hazard class 2 (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.

European waste catalogue:

08 04 09: Waste adhesives and sealants containing organic solvents or other hazardous substances.
15 01 10: Packaging containing residues of or contaminated by hazardous substances.

Adhesives, dry, solid mass (cured)

Smaller quantities can be disposed of together with household waste.
Waste code number 20 01 28: Paints, printing inks, adhesives and synthetic resins other than those mentioned in 20 01 27.

Uncleaned containers/packaging material

Recommendation:

Packaging that cannot be cleaned must be disposed of in the same way as the substance.
The packaging can be reused or recycled after cleaning.
The packaging must be disposed of in accordance with the Packaging Ordinance.
Contaminated packaging must be emptied in the best possible way and can then be recycled after appropriate cleaning.

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according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6 Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

then be recycled after appropriate cleaning.
Packaging with cured adhesive residues can be recycled.
Packaging with cured adhesive residues can be treated as household waste.
Packaging with uncured adhesive residues must be disposed of as hazardous waste.

Recommended cleaning agent: Solvent naphtha

Waste code number

Packaging with uncured adhesive residues:
15 01 10* - Packaging containing residues of or contaminated by hazardous substances.
Packaging with cured adhesive residues:
15 01 02 - plastic packaging
15 01 04 - metal packaging
15 01 05 - composite packaging

SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA UN 1133

14.2 UN proper shipping name

ADR 1133 ADHESIVES
IMDG, IATA ADHESIVES

14.3 Transport hazard class(es)

ADR:



Class: 3 (F1) Flammable liquids
Label: 3

IMDG, IATA:



Class: 3, Flammable liquids
Label: 3

14.4 Packing group:

ADR, IMDG, IATA III

14.5 Environmental hazards:

Not applicable.

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6 Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

14.6 Special precautions for user:

Warning: Flammable liquids.

Kemler Number: -
EMS Number: F-E, S-D
Stowage Category: A

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

Transport/Additional information:

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	E

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"

UN 1133 ADHESIVES, 3, III

SECTION 15: Regulatory information

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

Seveso category P5c FLAMMABLE LIQUIDS

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

LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3.

Regulation (EU) No. 649/2012 (PIC)

None of the ingredients is listed.

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in Electrical and Electronic Equipment - Annex II

None of the ingredients is listed.

Regulation (EU) No. 649/2012 (PIC)

Annex I - RESTRICTED EXPORT SUBSTANCES FOR EXPLOSIVE SUBSTANCES (Upper concentration limit for a permit under Article 5.3

None of the ingredients is listed.

Annex II - REPORTABLE EXPORT SUBSTANCES FOR EXPLOSIVES

67-64-1 ACETONE

25-<35 %

Regulation (EC) No. 273/2004 on drug precursors

Page: 15 / 21

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Kaimann GmbH

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6 Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

78-93-3	2-BUTANONE	3	
67-64-1	ACETONE	3	
Regulation (EC) No. 111/2005 laying down rules for the monitoring of trade in trade in drug precursors between the Community and third countries			
78-93-3	2-BUTANONE	3	25-<35 %
67-64-1	ACETONE	3	25-<35 %

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

These data are based on our present knowledge. They shall, however, not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. All standard industrial precautions apply, concerning protection of health, and safe handling. The recommendations have to be examined in the context of the application for which the product is intended, and observed as necessary.

16.1 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
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

16.2 Relevant phrases

H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful by inhalation.
H335 Can irritate the respiratory tract.
H336 Can cause drowsiness or dizziness.

Page: 16 / 21

The information supplied on this safety data sheet complies with our current level of knowledge and is not to be regarded as guaranteed attributes of the product.



Kaimann GmbH

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6

Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

Annex: Exposure Scenario 1

Short name of the exposure scenario

- Sector of use

SU22 Commercial uses: Public sector (administration, education, entertainment, services, crafts)

- Product category PC1 Adhesives, sealants

- Process category

PROC1 Chemical production or refining in a closed process with no exposure probability or process with equivalent containment conditions

PROC2 Chemical production or refining in a closed continuous process

with occasional controlled exposure or process with equivalent containment conditions

PROC3 Chemical manufacturing or formulation in a closed

batch processes with occasional controlled exposure or processes with equivalent

Containment conditions

PROC4 Chemical production with the possibility of exposure

PROC5 Mixing in batch processes

PROC8a Transfer of substances or mixtures (filling and discharging) in facilities not specifically designed for only one

for only one product

PROC8b Transfer of substances or mixtures (filling and discharging) in dedicated single-product facilities

for only one product

PROC10 Application by rolling or brushing

PROC11 Non-industrial spraying

PROC13 Treatment of products by dipping and pouring

PROC15 Use as laboratory reagent

PROC19 Manual activities with hand contact

- Environmental release category

ERC8a Wide use as a non-reactive processing aid (no inclusion in or on an article, indoor use)

ERC8d Wide use as a non-reactive processing aid (no inclusion in or on an article, outdoor use).

an article, outdoor use)

- Description of activities/processes considered in the exposure scenario.

See section 1 in the annex to the safety data sheet.

- Conditions of use Normal industry use according to section 1.

- Duration and frequency

Less than 1 h.

5 working days/week.

- **Workers** Regular use with up to 1 h exposure per working day.

- **Environment** Do not allow product to enter drains or water bodies.

- Physical parameters

The data of the physicochemical properties in the exposure scenario are based on the properties of the preparation.

- **Physical state** liquid

- **Concentration of the substance in the mixture** The substance is the main component.

- **Amount used per time or activity** 0.9 kg per day

- **Other conditions of use**

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6 Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

The usual precautions for handling chemicals must be observed.

- Other conditions of use affecting environmental exposure

Observe Section 6 of the Safety Data Sheet (Accidental Release Measures).

The product must not come into contact with soil, surface water or groundwater until it has completely hardened.

ground water.

High temperature promotes emission.

- Other conditions of use affecting worker exposure.

Indoor use.

Outdoor use.

Avoid contact with eyes.

Take measures against electrostatic charges.

Keep away from sources of ignition - Do not smoke.

- Other conditions of use with influence on consumer exposure

No special measures required.

- Other conditions of use with influence on consumer exposure during the service life of the product.

Useful life of the product

Not applicable

- Risk management measures

- Worker protection

Immediately remove clothing contaminated with product.

Remove affected persons to fresh air.

- Organizational protective measures

Provide operating instructions.

Provide good ventilation. This can be achieved by local exhaust or general exhaust.

If this is not sufficient to keep solvent vapor concentrations below occupational exposure limits, suitable respiratory

suitable respiratory protective equipment must be worn.

- Technical protective measures

Provide explosion-proof electrical equipment.

Provide suitable exhaust/ventilation at processing machines. As part of the

Risk assessment must be carried out to determine whether and to what extent protective measures are necessary. If necessary

a workplace measurement must be carried out.

- Personal protective measures

Do not inhale gases/vapors/aerosols.

Avoid contact with eyes.

Tightly fitting safety goggles (EN 166).

- Consumer protection measures Ensure adequate labeling.

- Environmental precautions Keep product waste separate from uncontaminated waste.

- Water Do not allow product to reach ground water, water course or sewage system.

- Soil Avoid contact with soil and/or groundwater during application.

- Remarks

In case of accidental release of product: see section 6 of the safety data sheet.

- Disposal measures Ensure waste is collected and retained.

- Disposal methods

Must not be disposed of together with household waste. Do not allow to enter drains.

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6 Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

- Type of waste

Partially emptied and uncleaned containers
Liquid product residues

- Exposure Prediction

- **Worker (oral)** No significant oral exposure.
- **Worker (dermal)** The calculated value is less than the DNEL.
- **Worker (inhalation)** The calculated value is less than the DNEL.
- **Environment** The calculated value is less than the PNEC.
- **Consumer** Not relevant for this exposure scenario.
- **Guidance for downstream users** No further relevant information available.

Annex: Exposure Scenario 2

- Short name of the exposure scenario

- Sector of use

SU3 Industrial uses: Uses of substances on their own or in preparations at industrial sites

- Product category PC1 Adhesives, sealants

- Process category

PROC1 Chemical production or refining in a closed process with no exposure probability or process with equivalent containment conditions

PROC2 Chemical production or refining in a closed continuous process

with occasional controlled exposure or process with equivalent containment conditions

PROC3 Chemical manufacturing or formulation in a closed

batch processes with occasional controlled exposure or processes with equivalent Containment conditions

PROC4 Chemical production with the possibility of exposure

PROC5 Mixing in batch processes

PROC7 Industrial spraying

PROC8a Transfer of substances or mixtures (filling and discharging) in facilities not specifically designed for only one

for only one product

PROC8b Transfer of substances or mixtures (filling and discharging) in dedicated single product facilities

for only one product

PROC9 Transfer of a substance or mixture into small containers (special filling equipment, including weighing)

PROC10 Application by rolling or brushing

PROC13 Treatment of products by dipping and pouring

PROC15 Use as laboratory reagent

- Environmental release category

ERC4 Use as a non-reactive processing aid at an industrial site (no Inclusion in or on an article)

- Description of activities/processes considered in the exposure scenario.

See section 1 in the annex to the safety data sheet.

- Conditions of use Usage common to the industry as described in section 1.

- Duration and frequency

Page: 19 / 21

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Kaimann GmbH

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6 Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

5 working days/week.

8 h (whole shift).

- **Workers** 8 h (whole shift).

- Environment

The product must not enter the sewage system and must not enter water bodies.

Must not come into contact with soil, surface and ground water.

- Physical parameters

The data of physicochemical properties in the exposure scenario are based on the properties of the preparation.

- **Physical state** liquid

- **Concentration of the substance in the mixture** The substance is the main component.

- **Quantity used per time or activity** 8 tons per day

- Other conditions of use

The usual precautions for handling chemicals must be observed.

- Other conditions of use affecting environmental exposure

Refer to Section 6 of the Safety Data Sheet (Accidental Release Measures).

High temperature promotes emission.

Do not allow product to come into contact with soil, surface or ground water until fully cured.
ground water.

- Other conditions of use affecting worker exposure

Avoid contact with eyes

Take measures against electrostatic charges.

Keep away from sources of ignition - Do not smoke.

- Other conditions of use with influence on consumer exposure

No special measures required.

- Other conditions of use with influence on consumer exposure during the service life of the product.

Useful life of the product

Not applicable

- Risk management measures

- Worker protection

Immediately remove clothing contaminated with product.

Remove affected persons to fresh air.

- Organizational protective measures

Ensure good ventilation. This can be achieved by local exhaust or general exhaust.

If this is not sufficient to keep solvent vapor concentrations below occupational exposure limits, use suitable respiratory

suitable respiratory protective equipment must be worn.

- Technical protective measures

Provide explosion-proof electrical equipment.

Provide suitable exhaust/ventilation at processing machines. As part of the

Risk assessment must be carried out to determine whether and to what extent protective measures are necessary. If necessary

a workplace measurement must be carried out.

- Personal protective measures

In case of insufficient ventilation, respiratory protection (EN 14387).

Short-term filter device:

Filter AX (boiling point < 61 °C); Filter A (boiling point > 60 °C).

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

Print date: 6th September 2022
Revision date: 4th November 2021
Valid from: 4th November 2021
Version: 6 Replaces version: 5

KAIFLEX® Special Adhesive 494 HHF

Only when spraying without adequate exhaust ventilation (EN 149).

Filter A/P2

In case of direct contact with the liquid material (e.g. during cleaning work): Gloves.

Otherwise no hand protection is necessary.

Impermeable gloves (EN 374).

Do not inhale gases/vapors/aerosols.

Avoid contact with eyes.

Tightly fitting safety goggles (EN 166).

- **Consumer protection measures** Ensure adequate labeling.

- **Environmental precautions** Keep product waste separate from uncontaminated waste.

- **Water** Do not allow product to reach ground water, water course or sewage system.

- **Soil** Avoid contact with soil and/or groundwater during application.

- Remarks

In case of accidental release of product: see section 6 of the safety data sheet.

- **Disposal measures** Ensure waste is collected and retained.

- Disposal methods

Must not be disposed of together with household waste. Do not allow to enter drains.

- Type of waste

Liquid product residues

Partially emptied and uncleaned containers

- Exposure Prediction

- **Worker (oral)** No significant oral exposure.

- **Worker (dermal)** The calculated value is less than the DNEL.

- **Worker (inhalation)** The calculated value is less than the DNEL.

- Environment

Water: No exposure

Soil: No exposure

Wastewater treatment plant: No exposure

- **Consumer** Not relevant for this exposure scenario.

- **Guidance for downstream users** No further relevant information available.