

# Klübertec® HP 1-416

Water-miscible mould release agent for aluminium pressure diecasting



## Description

Klübertec HP 1-416 is a water-miscible mould release agent for aluminium die-casting. It consists of silicone co-polymers, emulsifier, wax, corrosion inhibitors, biocides and water.

The combination of high-grade raw materials ensures high efficiency.

Klübertec HP 1-416 is a release agent concentrate which is free from mineral oil and pigments. High mixing ratios are possible even for the manufacture of complex aluminium castings.

Excellent corrosion protection and little residue formation considerably reduce the mould cleansing intervals.

## Application

Klübertec HP 1-416 is suitable for automatic and manual application for a wide range of castings made of aluminium diecasting alloys. Very complex castings, which can normally only be produced using additional mould lubrication with a paste, can be removed from the mould very easily when Klübertec HP 1-416 is used.

The diecastings have a bright and shiny surface. Prior to painting or coating we recommend cleaning the parts with Klübertop ZW 01-006 or with other commercial alkaline or acid cleaning agents.

## Application notes

Klübertec HP 1-416 is mixed with water at a ratio between 1:120 and 1:200 prior to application. The opti-

mum mixing ratio depends on the complexity of the diecastings and has to be determined empirically.

When starting trials we recommend a mixing ratio of 1:120 which can be increased after a start-up phase of one to two hours. The good wetting capacity of the mould release agent ensures that a uniform film is formed in the die cavity. In most cases additional lubrication is not necessary.

In closed circuits, especially when production is stopped for several days, additional biocides can be added to the ready-for-use mixture to give additional protection against bacterial contamination.

The biocide content in Klübertec HP 1-416 is kept to a minimum in order to considerably reduce water contamination and increase workplace safety.

## Storage

Minimum shelf life at least 6 months when stored in the original closed container and protected against frost.

## Product data

Colour	white to yellowish
Density, DIN 51757, 20° C	1.0 g/cm <sup>3</sup>
Active ingredients	26 % by weight
pH value, DIN 51369, undiluted	8.5

## Klübertec HP 1-416

- Concentrate, mixing ratio with water up to 1:200
- Suitable for a wide range of castings
- Removable with aqueous cleaners (acid or alkaline)
- Minimum environmental impact
- Good corrosion protection

## Packs

60 l container  
200 l drum  
1000 l container

# Klübertec® HP 1-416

## Safety Data Sheet

<b>1.1 Product name: Klübertec HP 1-416</b> <b>Code-No.: 037 242</b> <b>Date: 4.5.1998</b>	<b>9. Physical and chemical properties</b>  Form liquid Colour light yellow Odour none Boiling point ~ 100 °C Flash point none °C, DIN ISO 2592 Flammability not applicable °C Ignition temperature not applicable °C Autoflammability not applicable Lower explosion limit not applicable Upper explosion limit not applicable Vapour pressure – first not applicable Density approx. 1,0 g/cm³, 20 °C, DIN 51 757  Water solubility miscible, g/l pH value approx. 8,5, DIN 51 369 Outpour time no data available, DIN 53 211 Further information None
<b>1.2 Klüber Lubrication München KG</b> <b>Emergency telephone no.:</b> Geisenhausenerstr. 7 <b>++49 - 89 - 7876 - 0</b> D-81379 München, Tel. ++49 - 89 - 7876 - 0 telephone exchange Fax ++49 - 89 - 7876 - 333	
<b>2. Composition / information on ingredients</b> Chemical characterization (preparation): Aqueous emulsion of silicone copolymer and wax Additional information: No hazardous ingredients	
<b>3. Hazards identification</b> No particular hazards known	
<b>4. First aid measures</b> After inhalation: Not applicable After contact with skin: Wash off with plenty of water After contact with eyes: Rinse with plenty of water After ingestion: Do not induce vomiting. Obtain medical attention Advice to doctor: Treat symptomatically	
<b>5. Fire-fighting measures</b> Suitable extinguishing media: The product itself does not burn. Use extinguishing measures that are appropriate to the environment Special hazards: None Special protective equipment for firefighters: No special precautions required Additional information: None	<b>10. Stability and reactivity</b> Conditions to avoid: None Materials to avoid: Strong oxidizing agents Hazardous decomposition products: None under normal use Additional information: None
<b>6. Accidental release measures</b> Personal precautions: Risk of slipping due to leakage/spillage of product Environmental precautions: Do not flush into surface water Methods for cleaning up / taking up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Dispose of absorbed material in accordance with the regulations Additional information: None	<b>11. Toxicological information</b> The toxicological data has been taken from products of similar composition Acute toxicity: LD <sub>50</sub> /oral/rat = > 2g/kg (literature data) Chronic toxicity: None Human experience: Prolonged skin contact may cause skin irritation and/or dermatitis
<b>7. Handling and storage</b> Advice on safe handling: No special handling advice required Advice on protection against fire and explosion: No special precautions required Requirements on storage rooms and vessels: Unsuitable materials: Steel Incompatible materials: Do not store together with food. Incompatible with strong acids and bases Further information on storage condition: Store at room temperature in the original container	<b>12. Ecological information</b> Information on elimination (persistence and degradability): The product has not been tested Behaviour in environmental compartments: Ecological injuries are not known or expected under normal use Ecotoxic effects: The product has not been tested. Additional information: Do not discharge product unmonitored into the environment
<b>8. Exposure controls / personal protection</b> Additional advice on system design: Not applicable Ingredients and specific control parameters: None Respiratory protection: No special protective equipment required Hand protection: No special protective equipment required Eye protection: No special protective equipment required Body protection: No special protective equipment required Other protection measures: No special protective equipment required General protection and hygiene measures: Avoid prolonged and/or repeated contact with skin. Clean skin thoroughly after work; apply skin cream. Remove soiled or soaked clothing immediately	<b>13. Advice on disposal</b> Disposal: Deliver surplus and used solutions to a physico-chemical treatment facility. The organic ingredients can be incinerated in a suitable authorised installation Dispose of contaminated packaging and recommended cleaning: Offer rinsed packaging material to local recycling facilities
	<b>14. Transport information</b> GGVS / GGVE: not applicable      ADN / ADN: not applicable IMDG-Code: not applicable      ICAO / IATA-DGR: not applicable Further information: Not classified as dangerous in the meaning of transport regulations
	<b>15. Regulatory information</b> Labelling according to EU-guidelines: The product does not require a hazard warning label in accordance with EC-directives/German regulations on dangerous substances National regulations
	<b>16. Other information</b> None Issue-department of Safety Data Sheet: Chemical Documentation, Tel.: ++49 - 89 - 7876 - 564

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Klüber Lubrication, a member of the Freudenberg Group