

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/30/2015

Reviewed on 03/30/2015

## 1 Identification

### · Product identifier

· Trade name: **Akelux Pyrosil**

· Article number: 62012

### · Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

· Application of the substance / the mixture

Activator

### · Details of the supplier of the safety data sheet

· Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH  
Lechstrasse 28  
D 90451 Nürnberg

Tel. +49(0)911-642960  
Fax. +49(0)911-644456  
e-mail info@akemi.de

· Information department:

Laboratory

### · Emergency telephone number:

Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH  
Tel. +49(0)911-64296-59  
Reachable during the following office hours:  
Monday – Thursday from 07:30 a.m. to 16:30 p.m.  
Friday from 07:30 a.m. to 13:30 p.m.

## 2 Hazard(s) identification

### · Classification of the substance or mixture



GHS02 Flame

Flam. Gas 1 H220 Extremely flammable gas.

Press. Gas H280 Contains gas under pressure; may explode if heated.

### · Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Extremely flammable

Extremely flammable.

### · Information concerning particular hazards for human and environment:

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

Contact with skin and inhalation of aerosols/ vapours of the preparation should be avoided.

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

### · Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

### · Label elements

#### · GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

#### · Hazard pictograms



GHS02

#### · Signal word

Danger

#### · Hazard statements

H220 Extremely flammable gas.  
H280 Contains gas under pressure; may explode if heated.

#### · Precautionary statements

P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.

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**Trade name: Akelux Pyrosil** (Contd. of page 1)

- P103 Read label before use.
- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P243 Take precautionary measures against static discharge.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P410+P403 Protect from sunlight. Store in a well-ventilated place.

- Classification system:
- NFPA ratings (scale 0 - 4)

Health = 0  
Fire = 0  
Reactivity = 0

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- HMS-ratings (scale 0 - 4)

- **Other hazards**
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0	butane F+ R12 Flam. Gas 1, H220; Flam. Liq. 1, H224 Press. Gas, H280	50-100%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5	propane F+ R12 Flam. Gas 1, H220; Flam. Liq. 1, H224 Press. Gas, H280	12.5-25%

- Additional information: For the wording of the listed risk phrases refer to section 16.

### 4 First-aid measures

- **Description of first aid measures**
- General information: Take affected persons out into the fresh air.  
Seek medical treatment.  
Immediately remove any clothing soiled by the product.
- After inhalation: Take affected persons into fresh air and keep quiet.  
Supply fresh air or oxygen; call for doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed**  
Breathing difficulty  
Headache  
Dizziness  
Dizziness  
Gastric or intestinal disorders

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- Information for doctor: Unconsciousness  
Nausea  
Therapy in hydrocarbons intoxication: In case of inhalation provision of fresh air; in case of peroral intake administration of Carbo medicinalis; only after intubation conduct of gastrolavage in application of Carbo medicinalis; in case of cramps administration of Diazepam 20 mg intravenously.  
Symptoms in intoxication with (aromatic) hydrocarbons (dosis letalis about 30 g)  
a) In acute intoxication: headache, dizziness, euphoria, gastro-intestinal dysfunction, state of excitement, coma.  
b) In chronic intoxication: myelotoxic damage, fatigue, dizziness, emaciation, cardiac palpitation after physical exercise, leucopenia, anemia, leukosis.
- Danger Danger of impaired breathing.
- Indication of any immediate medical attention and special treatment needed If swallowed, gastric irrigation with added, activated carbon.  
Monitor circulation.  
If necessary oxygen respiration treatment.

**5 Fire-fighting measures**

- Extinguishing media
- Suitable extinguishing agents: CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fire with alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- Special hazards arising from the substance or mixture Formation of toxic gases is possible during heating or in case of fire.  
In case of fire, the following can be released:  
Carbon monoxide (CO)
- Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.  
Do not inhale explosion gases or combustion gases.  
Wear fully protective suit.
- Additional information Cool endangered receptacles with water spray.

**6 Accidental release measures**

- Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation  
Keep away from ignition sources  
Use respiratory protective device against the effects of fumes/dust/aerosol.  
Wear protective equipment. Keep unprotected persons away.
- Environmental precautions: Do not allow product to reach sewage system or any water course.  
Prevent seepage into sewage system, workpits and cellars.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- 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 disposal information.

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### 7 Handling and storage

- **Precautions for safe handling**      Store in cool, dry place in tightly closed receptacles.  
Keep away from heat and direct sunlight.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
  
- Information about protection against explosions and fires:      Highly volatile, flammable constituents are released during processing.  
Fumes can combine with air to form an explosive mixture.  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
  
- **Conditions for safe storage, including any incompatibilities**
- Storage:
- Requirements to be met by storerooms and receptacles:      Store only in the original receptacle.  
Store in a cool location.
  
- Information about storage in one common storage facility:      Store away from oxidizing agents.  
Store away from flammable substances.
  
- Further information about storage conditions:      Store receptacle in a well ventilated area.  
Keep receptacle tightly sealed.  
Do not gas tight seal receptacle.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
  
- **Specific end use(s)**      No further relevant information available.

### 8 Exposure controls/personal protection

- Additional information about design of technical systems:      No further data; see item 7.
- **Control parameters**

· Components with limit values that require monitoring at the workplace:

**106-97-8 butane**

REL	Long-term value: 1900 mg/m <sup>3</sup> , 800 ppm
TLV	Short-term value: 2370 mg/m <sup>3</sup> , 1000 ppm

**74-98-6 propane**

PEL	Long-term value: 1800 mg/m <sup>3</sup> , 1000 ppm
REL	Long-term value: 1800 mg/m <sup>3</sup> , 1000 ppm
TLV	refer to Appendix F

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

· **Exposure controls**

- Personal protective equipment:
- General protective and hygienic measures:      Do not eat, drink, smoke or sniff while working.  
Use skin protection cream for skin protection.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.

- Breathing equipment:      Do not inhale gases / fumes / aerosols.  
Short term filter device:  
Filter AX

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· Protection of hands:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Use suitable respiratory protective device in case of insufficient ventilation. Preventive skin protection by use of skin-protecting agents is recommended. After use of gloves apply skin-cleaning agents and skin cosmetics.

The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times' data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory analyses of the company KCL GmbH in compliance with EN374.

This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: <http://www.kcl.de>).



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Fluorocarbon rubber (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

Value for the permeation: Level  $\leq$  6, 480 min

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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

Vitoject (KCL, Art No. 890)

· As protection from splashes gloves made of the following materials are suitable:

Camatril (KCL, 730, 731, 732, 733)

· Not suitable are gloves made of the following materials:

Chloroprene rubber, CR  
Butyl rubber, BR  
Strong gloves  
Leather gloves

· Eye protection:



Tightly sealed goggles

· Body protection:

Protective work clothing

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### \* 9 Physical and chemical properties

#### · Information on basic physical and chemical properties

##### · General Information

##### · Appearance:

Form: Compressed liquefied gas

Color: Colorless

· Odor: Specific type

##### · Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

· Flash point: Not applicable.

· Ignition temperature: 365 °C (689 °F)

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

##### · Explosion limits:

Lower: 1.5 Vol %

Upper: 10.9 Vol %

· Vapor pressure at 20 °C (68 °F): 8300 hPa (6226 mm Hg)

· Density at 20 °C (68 °F): 0.56 g/cm<sup>3</sup> (4.673 lbs/gal)

· Specific gravity at 20 °C (68 °F): 0.57 g/cm<sup>3</sup> (4.757 lbs/gal)

##### · Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

##### · Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

##### · Solvent content:

Organic solvents: 100.0 %

· **Other information** No further relevant information available.

### \* 10 Stability and reactivity

#### · **Reactivity**

#### · **Chemical stability**

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· **Possibility of hazardous reactions**

Reacts with strong oxidizing agents.

Can form explosive vapor-air mixture if stored in large receptacles at temperatures > 35 °C.

· **Conditions to avoid**

No further relevant information available.

· **Incompatible materials:**

No further relevant information available.

· **Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

Flammable gases/vapors

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**11 Toxicological information****· Information on toxicological effects**

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

**ATE (Acute Toxicity Estimates)**

Inhalative LC50/4 h 89.2 mg/l (rat)

· Primary irritant effect:

· on the skin: No irritant effect.

· on the eye: No irritating effect.

· Sensitization: No sensitizing effects known.

· Additional toxicological information:

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety &amp; Health Administration)

None of the ingredients is listed.

**12 Ecological information**· **Toxicity**

· Aquatic toxicity: No further relevant information available.

· **Persistence and degradability** No further relevant information available.· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.

· Additional ecological information:

· General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water

· **Results of PBT and vPvB assessment**

· PBT: Not applicable.

· vPvB: Not applicable.

· **Other adverse effects** No further relevant information available.**13 Disposal considerations**· **Waste treatment methods**

· Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:

· Recommendation: Disposal must be made according to official regulations.

**14 Transport information**· **UN-Number**

· DOT, ADR, IMDG, IATA UN1057

· **UN proper shipping name**

· DOT Lighters

· ADR 1057 Lighters

· IMDG, IATA LIGHTERS

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· **Transport hazard class(es)**

· DOT  
 · Class 2 Gases

· ADR, IMDG, IATA



· Class 2 Gases  
 · Label 2.1

· **Packing group**

· DOT, ADR, IMDG Void  
 · IATA II

· **Environmental hazards:**

· Marine pollutant: No

· **Special precautions for user**

· EMS Number: Warning: Gases  
 F-D,S-U

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· Transport/Additional information:

· DOT  
 · Quantity limitations On passenger aircraft/rail: 75 kg  
 On cargo aircraft only: 150 kg

· ADR

· Excepted quantities (EQ) Code: E0  
 Not permitted as Excepted Quantity

· Remarks:

Alternative:  
 ADR/RID class: 2 5F  
 Danger Code (Kemler): 23  
 UN-Number: 1950  
 Packaging Group: -  
 Description of goods: 1950 Flammable Gas

· IMDG

· Limited quantities (LQ) 1L  
 · Excepted quantities (EQ) Code: E0  
 Not permitted as Excepted Quantity

· Remarks:

Alternative:  
 IMDG CLASS: 2.1  
 UN Number: 1950  
 Label: 2.1  
 Packaging group: -  
 Marine pollutant: no  
 Proper shipping name: Flammable Gas

· IATA

· Remarks: ICAO/IATA Class: 2.1  
 UN/ID Number: 1950

Label: 2.1  
 Packaging group: -  
 Proper shipping name: Flammable Gas

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<u>UN "Model Regulation":</u>	UN1057, Lighters, 2.1
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**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Sara

- Section 355 (extremely hazardous substances):

None of the ingredient is listed.

- Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

- TSCA (Toxic Substances Control Act):

All ingredients are listed.

- Proposition 65

- Chemicals known to cause cancer:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

- Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- Carcinogenicity categories

- EPA (Environmental Protection Agency)

None of the ingredients is listed.

- TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

- MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms



GHS02

- Signal word

Danger

- Hazard statements

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

- Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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P410+P403 Protect from sunlight. Store in a well-ventilated place.

- National regulations:
- Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- VOC USA g/l / 4.76 lb/gl
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

**16 Other information**

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: Laboratory
- Contact: Dieter Zimmermann  
Elke Hake  
Fon ++49 (0)911 64296-59  
@mail E.Hake@akemi.de
- Date of preparation / last revision 03/30/2015 / 1
- 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 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
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - 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)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - Flam. Gas 1: Flammable gases, Hazard Category 1
  - Press. Gas: Gases under pressure: Compressed gas
  - Flam. Liq. 1: Flammable liquids, Hazard Category 1

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