

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 12.06.2015

Revision: 22.05.2014

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

Product identifier

- **Trade name:** Metaflux 70-89 HT Super + PTFE
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Lubricant

- **Details of the supplier of the safety data sheet**

- **Manufacturer/Supplier:**

Metaflux International AG
Industriestrasse 11
CH-4313 Möhlin
Switzerland
++41 61 851 08 00

www.metaflux.com

- **Further information obtainable from:**

Sales Department
++41 61 851 08 00

- **Emergency telephone number:**

Central Phone Number
++49 521 924440

BIO-CIRCLE MAKING GREEN WORK.

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2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Aerosol 1 H222 Extremely flammable aerosol.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

F+; Extremely flammable

R12: Extremely flammable.

R52/53-67: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Vapours may cause drowsiness and dizziness.

- **Information concerning particular hazards for human and environment:**

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.

Warning! Pressurized container.

Has a narcotizing effect.

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

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· Code letter and hazard designation of product:**F+ Extremely flammable****· Risk phrases:**

- 12 Extremely flammable.
 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 67 Vapours may cause drowsiness and dizziness.

· Safety phrases:

- 23 Do not breathe vapour/spray.
 24/25 Avoid contact with skin and eyes.
 35 This material and its container must be disposed of in a safe way.
 51 Use only in well-ventilated areas.

· Special labelling of certain preparations:

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
 Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking!
 Without sufficient ventilation formation of explosive mixtures may be possible.
 Keep out of the reach of children

· Classification in accordance with Directive 75/324/EEC: Extremely flammable**· Other hazards** Smoking of contaminated tobacco may cause polymer-smoke-fever**· Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures**· Description:** Mixture of substances listed below with nonhazardous additions.**· Dangerous components:**

CAS: 106-97-8 EINECS: 203-448-7	butane F+ R12 Flam. Gas 1, H220; Press. Gas, H280	25-50%
CAS: 109-66-0 EINECS: 203-692-4	pentane Xn R65; F+ R12; N R51/53 R66-67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	2.5-10%
CAS: 74-98-6 EINECS: 200-827-9	propane F+ R12 Flam. Gas 1, H220; Press. Gas, H280	2.5-10%
EC number: 919-857-5	Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics Xn R65 R10-66-67 Flam. Liq. 3, H226; Asp. Tox. 1, H304; STOT SE 3, H336	2.5-10%

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CAS: 64742-49-0 EC number: 931-254-9	Hydrocarbons, C6, isoalkanes, <5% n-hexane Xn R65; Xi R38; F R11; N R51/53 R67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	2.5-10%
CAS: 110-82-7 EINECS: 203-806-2	cyclohexane Xn R65; Xi R38; F R11; N R50/53 R67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; STOT SE 3, H336	2.5-10%
CAS: 64742-49-0 EC number: 926-605-8	Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane Xn R65; F R11; N R51/53 R66-67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	≤ 2.5%
CAS: 75-28-5 EINECS: 200-857-2	isobutane F+ R12 Flam. Gas 1, H220; Press. Gas, H280	≤ 2.5%
CAS: 110-54-3 EINECS: 203-777-6	n-hexane Xn R48/20-62-65; Xi R38; F R11; N R51/53 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361f; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	≤ 2.5%
CAS: 67-63-0 EINECS: 200-661-7	propan-2-ol Xi R36; F R11 R67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	≤ 2.5%

· **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.

Do not leave affected persons unattended.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Wash with water and soap

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** Do not induce vomiting; call for medical help immediately.

· **Information for doctor:** Smoking of contaminated tobacco may cause polymer-smoke-fever

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

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Hydrogen fluoride (HF)

Fluorinated pyrolysis products

· **Advice for firefighters**· **Protective equipment:** Do not inhale explosion gases or combustion gases.· **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.· **Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

· **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.

7 Handling and storage

· **Handling:**· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Highly volatile, flammable constituents are released during processing.

· **Conditions for safe storage, including any incompatibilities**· **Storage:**· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Observe official regulations on storing packagings with pressurized containers.

· **Information about storage in one common storage facility:** Not required.· **Further information about storage conditions:** 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 facilities:** No further data; see item 7.· **Control parameters**· **Ingredients with limit values that require monitoring at the workplace:****106-97-8 butane**

WEL (Great Britain)	Short-term value: 1810 mg/m ³ , 750 ppm
	Long-term value: 1450 mg/m ³ , 600 ppm
	Carc (if more than 0.1% of buta-1,3-diene)

109-66-0 pentane

WEL (Great Britain)	Long-term value: 1800 mg/m ³ , 600 ppm
IOELV (EU)	Long-term value: 3000 mg/m ³ , 1000 ppm

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Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics

OEL (Great Britain) Short-term value: 1200 mg/m³, 197 ppm
 Long-term value: 600 mg/m³
 RCP-TWA; Source: Exxon Mobil

110-82-7 cyclohexane

WEL (Great Britain) Short-term value: 1050 mg/m³, 300 ppm
 Long-term value: 350 mg/m³, 100 ppm
 IOELV (EU) Long-term value: 700 mg/m³, 200 ppm

110-54-3 n-hexane

WEL (Great Britain) Long-term value: 72 mg/m³, 20 ppm
 IOELV (EU) Long-term value: 72 mg/m³, 20 ppm

67-63-0 propan-2-ol

WEL (Great Britain) Short-term value: 1250 mg/m³, 500 ppm
 Long-term value: 999 mg/m³, 400 ppm

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Wash hands before breaks and at the end of work.

Keep away from tobacco products.

Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**

Not necessary if room is well-ventilated.

Use suitable respiratory protective device in case of insufficient ventilation.

· **Protection of hands:**



Protective gloves

· **Material of gloves** If contamination is possible, use gloves made of nitrile according EN 374

· **Penetration time of glove material** > 480 min / 0,4 mm thickness

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Aerosol

Colour: Light yellow

· **Odour:** Characteristic

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: -44°C

· **Flash point:** Not applicable, as aerosol.

· **Ignition temperature:** 240°C

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· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Risk of bursting at temperatures > 50°C. Damage of the container may lead to the formation of explosive mixtures of gas/vapors with air.
· Explosion limits:	
Lower:	0.8 Vol %
Upper:	8.5 Vol %
Pressure (20°C)	3 - 5 bar
· Density at 20°C:	0.683 g/cm ³
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Solvent content:	
Organic solvents:	28.6 %
VOC (EC)	70.5 %
Solids content:	29.5 %
· Other information	No further relevant information available.
· Additional information	Vapors are heavier than air.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Risk of bursting at temperatures >50°C.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Danger of toxic fluorine based pyrolysis products.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

64742-49-0 Naphtha (petroleum), hydrotreated light

Oral	LD50	> 5000 mg/kg (rat)
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64742-48-9 Naphtha (petroleum), hydrotreated heavy

Oral	LD50	>5000 mg/kg (rat)
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Dermal	LD50	>3000 mg/kg (rab)
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- **Primary irritant effect:**
- **on the skin:** low irritant - no duty to declare
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.

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- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **AOX-indication:** contains organic halogens, which contribute to the AOX-value
- **General notes:**
 Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 Harmful to aquatic organisms
- **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**
 empty cans: material recycling
 filled cans: remove in accordance with local regulations

- **European waste catalogue**

16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 05 00	gases in pressure containers and discarded chemicals
16 05 04	gases in pressure containers (including halons) containing dangerous substances
07 00 00	WASTES FROM ORGANIC CHEMICAL PROCESSES
07 06 00	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics
07 06 04	other organic solvents, washing liquids and mother liquors

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **ADR, IMDG, IATA** UN1950
- **UN proper shipping name**
- **ADR** 1950 AEROSOLS
- **IMDG** AEROSOLS
- **IATA** AEROSOLS, flammable

- **Transport hazard class(es)**

- **ADR**



- **Class** 2 5F Gases.

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· **Label** 2.1· **IMDG, IATA**· **Class** 2.1· **Label** 2.1· **Packing group**· **ADR, IMDG, IATA** Void· **Environmental hazards:**· **Marine pollutant:** No· **Special marking (ADR):** Symbol (fish and tree)· **Special precautions for user** Warning: Gases.· **Danger code (Kemler):** -· **EMS Number:** F-D,S-U· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.· **Transport/Additional information:**· **ADR**· **Limited quantities (LQ)** 1L· **Transport category** 2· **Tunnel restriction code** D· **Remarks:** Transportation as "LIMITED QUANTITIES" according 3.4 ADR is possible.

Sole marking: Sign for "Limited Quantities" (rhombus with two black edges)

Entry in the transportation document: Transportation according chapter 3.4 ADR

· **UN "Model Regulation":** UN1950, AEROSOLS, ENVIRONMENTALLY HAZARDOUS, 2.1

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· **Code letter and hazard designation of product:**

F+ Extremely flammable

· **Risk phrases:**

12 Extremely flammable.

52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

67 Vapours may cause drowsiness and dizziness.

· **Safety phrases:**

23 Do not breathe vapour/spray.

24/25 Avoid contact with skin and eyes.

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35 This material and its container must be disposed of in a safe way.

51 Use only in well-ventilated areas.

· Special labelling of certain preparations:*Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.**Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking!**Without sufficient ventilation formation of explosive mixtures may be possible.**Keep out of the reach of children***· Classification in accordance with Directive 75/324/EEC: Extremely flammable****· National regulations:****· Information about limitation of use:** *Employment restrictions concerning juveniles must be observed.*

Class	Share in %
I	0.9
NK	19.4

· 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.***· Relevant phrases**

H220 Extremely flammable gas.

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H280 Contains gas under pressure; may explode if heated.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H361f Suspected of damaging fertility.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

R10 Flammable.

R11 Highly flammable.

R12 Extremely flammable.

R36 Irritating to eyes.

R38 Irritating to skin.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R62 Possible risk of impaired fertility.

R65 Harmful: may cause lung damage if swallowed.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapours may cause drowsiness and dizziness.

· 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)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

VOC: Volatile Organic Compounds (USA, EU)

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LD50: Lethal dose, 50 percent

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· * Data compared to the previous version altered.

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