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SECTION 1: Identification of the substance/mixture and of the company/undertaking
· 1.1 Product identifier
· Trade name: <u>METAFLUX 70-49 Weld Copper</u> · UFI: FUH1-3074-M00H-9KQP

• 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 Coating material

 \cdot 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Techno Service GmbH Detmolder Strasse 515 D-33605 Bielefeld Germany +49 (0) 521 924440 www.metaflux.de info@metaflux.de

Further information obtainable from:

Sales Department

+49 (0) 521 92444-0

• **1.4 Emergency telephone number:** +49 700124112112 or +1 872 5888271 (TSF) 24 h

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008

5	0 0	
Aerosol 1	H222-H229	Extremely flammable aerosol. Pressurised container: May burst if heated.
Skin Irrit. 2	H315	Causes skin irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
Asp. Tox. 1	H304	May be fatal if swallowed and enters airways.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 2	H411	Toxic to aquatic life with long lasting effects.

· 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The labelling of an aspiration hazard (Asp. Tox. 1 H304) is not required for aerosols and containers with a sealed spray attachmend (Regulation (EC) 1272/2008, Annex I, 1.3.3). The product is classified and labelled according to the CLP regulation.

Hazard pictograms



· Signal word Danger

	letermining components of labelling: rbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes, <5% n-hexane	
· Hazard s		
H222-H2	229 Extremely flammable aerosol. Pressurised container: May burst if heated. H315	Causes
skin irrite	ation.	
H336	May cause drowsiness or dizziness.	
H410	Very toxic to aquatic life with long lasting effects.	
· Precautio	onary statements	
P102	Keep out of reach of children.	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.	No smoking.
P211	Do not spray on an open flame or other ignition source.	
P251	Do not pierce or burn, even after use.	
P260	Do not breathe vapours/spray.	
		Contd. on page 2)

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ade name: METAFLUX 70-4	9 Weld Copper	
P312 Call a POISON P410+P412 Protect from su	Yash with plenty of soap and water. CENTER/doctor if you feel unwell. nlight. Do not expose to temperatures exceeding 50 °C/122 °F. ainer with content as special waste.	Contd. of page 3
SECTION 3: Composit	ion/information on ingredients	
• Description:	below with nonhazardous compounds or compounds with no duty to	declare.
CAS: 106-97-8 EINECS: 203-448-7 Reg.nr.: 01-2119474691-32	Butane (< 0,1 % 1,3-butadiene) � Flam. Gas 1A, H220; Press. Gas (Liq.), H280	25-50%
CAS: 64742-49-0 EC number: 921-024-6 Reg.nr.: 01-2119475514-35	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes, <5% n-hexane Flam. Liq. 2, H225; S Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	≥15-<25%
CAS: 74-98-6 EINECS: 200-827-9 Reg.nr.: 01-2119486944-21	propane 🚸 Flam. Gas IA, H220; Press. Gas (Liq.), H280	10-25%
	Copper flakes (with coating of aliphatic acid) Acute Tox. 3, H331; Aquatic Acute 1, H400 ($M=10$); Aquatic Chronic 1, H410 ($M=1$); Acute Tox. 4, H302; Eye Irrit. 2, H319	≥2.5-<10%
CAS: 75-28-5 EINECS: 200-857-2 Reg.nr.: 01-2119485395-27	Isobutane (< 0,1 % 1,3-butadiene) Flam. Gas 1A, H220; Press. Gas (Liq.), H280	2.5-10%

· Additional information:

EC-Numbers beginning with "9" are numbers given by ECHA for the purpose of registration according REACH. Eventually mentioned CAS-numbers valid for countries which are not subject to the REACH regulation or in regulations not yet updated with the new naming convention for hydrocarbon solvents. For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

• 4.1 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.

· After skin contact: Wash with water and soap

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

• After swallowing:

If product is swallowed (normally not possible) DO NOT induce vormiting. DANGER OF ASPIRATION. Search for medical help..

· 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

No further relevant information available.

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SECTION 5: Firefighting measures

· 5.1 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
- \cdot 5.2 Special hazards arising from the substance or mixture
- During heating or in case of fire poisonous gases are produced.
- Risk of bursting in case of fire heat
- 5.3 Advice for firefighters
- *Protective equipment: Mouth respiratory protective device.*
- Wear fully protective suit.

• Additional information Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Avoid contact with skin / eyes and inhalation. Keep sources of ignition (flames, sparks, etc.) away. Do not use engines near by (potential source of ignition)
6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water. Do not allow to penetrate the ground/soil.
6.3 Methods and material for containment and cleaning up: Ensure adequate ventilation. Keep away all sources of ignition (machines, etc.) Let volatiles evaporate - stem up residues mechanically

• 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 disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air). Keep away from heat and direct sunlight.

Avoid inhalation and contact with the skin and the eyes.

· Information about fire - and explosion protection:

Do not spray onto a naked flame or any incandescent material.

Keep ignition sources away - Do not smoke.

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

• Requirements to be met by storerooms and receptacles:

Observe official regulations on storing packagings with pressurised containers.

· Information about storage in one common storage facility: Store away from oxidising agents.

- Further information about storage conditions: Keep container tightly sealed.
- **Recommended storage temperature:** 15 35°C, max. 50°C
- · Storage class: German storage class: 2B (Aerosols)

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•7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

(Contd. of page 3)

· 8.1 Control parameters • Additional information about design of technical facilities: No further data; see item 7. · Ingredients with limit values that require monitoring at the workplace: 106-97-8 Butane (< 0,1 % 1,3-butadiene) WEL (Great Britain) Short-term value: 1810 mg/m³, 750 ppm Long-term value: 1450 mg/m³, 600 ppm Carc (if more than 0.1% of buta-1.3-diene) 64742-49-0 Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes, <5% n-hexane TWA (8H) (Great Britain) Long-term value: 1000 mg/m³, 250 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 · DNELs 64742-49-0 Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes, <5% n-hexane DNEL Endverbraucher/ Consumers /Consommateur 699 mg/kg BW/ day (.) Oral DNEL - Endverbraucher/ Consumers /Consommateur 699 mg/kg BW /day (.) Dermal 699 mg/kg BW /day (hum) DNEL Arbeiter / Workers/ Travailleur 773 mg/kg BW/day (.) Inhalative DNEL Endverbraucher/ Consumers /Consommateur 608 mg /m3 (.) DNEL Arbeiter / Workers/ Travailleur 2,035 mg/m3 (.) • Additional Occupational Exposure Limit Values for possible hazards during processing: 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 • Additional information: The lists valid during the making were used as basis. · 8.2 Exposure controls · Personal protective equipment: • General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Do not inhale gases / fumes / aerosols. Avoid contact with the eyes and skin. • Respiratory protection: Suitable respiratory protective device recommended.

Filter AX P3 or A P3, colour-code brown, white (EN 14387)

• Protection of hands:

· Material of gloves



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

· Penetration time of glove material

>480 min / 0,5mm The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Eye protection:	(Contd. of page
Eye protection:	
Tightly sealed goggles	
Safety glasses in case of spittings	
SECTION 9: Physical and chemic	cal properties
9.1 Information on basic physical and cl	hemical properties
General Information	
Appearance:	4
Form: Colour:	Aerosol Copper coloured
Odour:	Petrol-like
Odour threshold:	Not determined.
pH-value:	Not applicable.
Change in condition	I. determined
Melting point/freezing point: Initial boiling point and boiling range:	Undetermined.
Initial bouing point and bouing range.	value concers to propellant
Flash point:	-97 °C concerns to propellant
Flammability (solid, gas):	Contains extremely flammable liquefied gas
Ignition temperature:	250 °C
Decomposition temperature:	Not determined.
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	<i>Risk of bursting at temperatures > 50°C. Damage of the contain</i>
Explosive properties.	may lead to the formation of explosive mixtures of gas/vapors wi air.
Explosion limits:	
Lower:	0.8 Vol %
Upper:	10.9 Vol %
Pressure (20°C) at 20 °C	3 - 5 bar
Density at 20 °C:	<i>ca.</i> 0.66 g/ <i>cm</i> ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not applicable.
Solubility in / Miscibility with water:	Not miscible or difficult to mix.
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	<i>ca. 20 %</i>
VOC (EC)	85.10 %
	ca. 14.9 %

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•9.2 Other information

Additional information

Vapors are heavier than air.

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: Risk of bursting at temperatures >50°C.
- · 10.3 Possibility of hazardous reactions
- By use or incidental release the formation of explosive vapor/air mixtures is possible.
- 10.4 Conditions to avoid
- *Temperatures* >50°C

Avoid the use in the near of ignition sources.

- 10.5 Incompatible materials: No further relevant information available.
- 10.6 Hazardous decomposition products: No dangerous decomposition products known.
- Additional information: Stable for a storage time of min. 24 months

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 relevant for classification:

LD/LC30	values relevant	
Oral	ATE	>2,000 mg/kg (.) Produkt ATE, berechnet / product ATE, calculated / ATE de produit, calculée
Inhalative	ATE	>5 mg/l/4h (.) Produkt ATE (Staub), berechnet / product ATE (dust) calculated, / ATE de produc (poussière), calculée
	ATE	>20 mg/l/4h (.) Produkt ATE (Dampf), berechnet / product ATE (vapours) calculated, / ATE de produit (vapeurs), calculée
106-97-8 E	Butane (< 0,1	% 1,3-butadiene)
Inhalative	LC50/4 h	658 mg/l (rat)
64742-49-	0 Hydrocarbon	s, C6-C7, n-alkanes, isoalkanes, cycloalkanes, <5% n-hexane
Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>25 mg/l (rat)
74-98-6 pr	opane	
Inhalative	LC50/4 h	>20 mg/l (rat)
	LC50 /15 min	1,443 mg/l (rat)
Copper fla	kes (with coati	ng of aliphatic acid)
Oral	LD50	>300 mg/kg (rat)
Inhalative	LC50/4 h	0.733 mg/l (rat) Staub
75-28-5 Is	obutane (< 0,1	% 1,3-butadiene)
Inhalative	LC50/4 h	>20 mg/l (rat)

· Primary irritant effect:

· Skin corrosion/irritation

low irritant - no duty to declare

irritant Causes skin irritation.

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· Serious eye damage/irritation low

- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · Additional toxicological information:

· CMR effects (carcinogenity, 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

May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

64742-49-0 Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes, <5% n-hexane

LC 50 / 96 h < 10 mg / l (fis)

- 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.
- · Ecotoxical effects:
- Remark: Toxic for fish
- Additional ecological information:
- General notes:

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

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

· 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

empty cans: material recycling

filled cans: remove in accordance with local regulations

Hand over to hazardous waste disposers.

• 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 hazardous substances

· Uncleaned packaging:

• *Recommendation: Disposal must be made according to official regulations.*

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14.1 UN-Number	
ADR, IMDG, IATA	UN1950
· 14.2 UN proper shipping name · ADR · IMDG	1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS AEROSOLS (Hydrocarbons, C6-C7, n-alkanes, isoalkane cycloalkanes, <5% n-hexane, copper), MARIN POLLUTANT
IATA	AEROSOLS, flammable
• 14.3 Transport hazard class(es) • ADR	
· Class · Label	2 5F Gases. 2.1
IMDG	2.1
Class Label	2.1 2.1
Class	2.1
	2.1
14.4 Packing group ADR, IMDG, IATA	Void
14.5 Environmental hazards:	Product contains environmentally hazardous substance Hydrocarbons, C6-C7, n-alkanes, isoalkane cycloalkanes, <5% n-hexane, copper
Marine pollutant:	Yes Symbol (fish and tree)
Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
14.6 Special precautions for user Hazard identification number (Kemler code): EMS Number: Stowage Code	Warning: Gases. - F-D,S-U SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litr
Segregation Code	Category A. For AEROSOLS with a capacity above 1 litr Category B. For WASTE AEROSOLS: Category C, Clea of living quarters. SG69 For AEROSOLS with a maximum capacity of 1 litre Segregation as for class 9. Stow "separated from" class except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS:

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	Segregation as for the appropriate subdivision of class 2.
· 14.7 Transport in bulk according to Anne Marpol and the IBC Code	ex II of Not applicable.
· Transport/Additional information:	
· <i>ADR</i>	
· Limited quantities (LQ)	1L
\cdot Excepted quantities (\widetilde{EQ})	Code: E0
· · · · · ·	Not permitted as Excepted Quantity
· Transport category	2
Tunnel restriction code	D
Remarks:	<i>Transportation as "LIMITED QUANTITIES" accordin</i> 3.4 ADR is possible.
	Sole marking: Sign for "Limited Quantities" (rhombi with two black edges)
	Entry in the transportation document: Transportation according chapter 3.4 ADR
	Tunnel category "E" in case of a load of 8000 kg (rgro. weight) or more.
	Hazardous goods under the transport regulations liste above may be subject to special regulations. For detai please consult the relevant transport regulations
· IMDG	
Limited quantities (LQ)	lL
\cdot Excepted quantities (EQ)	Code: E0
	Not permitted as Excepted Quantity
UN ''Model Regulation'':	UN 1950 AEROSOLS, 2.1, ENVIRONMENTALL HAZARDOUS

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

E1 Hazardous to the Aquatic Environment

P3a FLAMMABLE AEROSOLS

 \cdot Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t

 \cdot Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

· 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) 2019/1148

• Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· National regulations:

· Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

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Fmnlow	(Contd. of pa nent restrictions concerning pregnant and lactating women must be observed.
Class	Share in %
Ι	0.5
NK	18.1
15.2 Ch	emical safety assessment: A Chemical Safety Assessment has not been carried out.
SECTI	ON 16: Other information
	ormation is based on our present knowledge. However, this shall not constitute a guarantee for product features and shall not establish a legally valid contractual relationship.
	t phrases
	xtremely flammable gas.
	ighly flammable liquid and vapour.
	ontains gas under pressure; may explode if heated.
	armful if swallowed.
	ay be fatal if swallowed and enters airways.
	auses skin irritation. auses serious eye irritation.
	oxic if inhaled.
	ay cause drowsiness or dizziness.
	ery toxic to aquatic life.
	ery toxic to aquatic life with long lasting effects.
	oxic to aquatic life with long lasting effects.
	ations and acronyms:
ADR: Acc	ord relatif au transport international des marchandises dangereuses par route (European Agreement Concernin
	nal Carriage of Dangerous Goods by Road) termentional Mentium Code for Dangerous Coode
	ternational Maritime Code for Dangerous Goods ernational Air Transport Association
GHS: Glo	bally Harmonised System of Classification and Labelling of Chemicals
	European Inventory of Existing Commercial Chemical Substances
	European List of Notified Chemical Substances mical Abstracts Service (division of the American Chemical Society)
	atile Organic Compounds (USA, EU)
	rived No-Effect Level (REACH)
	hal concentration, 50 percent hal dose, 50 percent
	istent, Bioaccumulative and Toxic
-	v Persistent and very Bioaccumulative
	: 1A: Flammable gases – Category 1A Aerosols – Category 1
	s (Liq.): Gases under pressure – Liquefied gas
Flam. Liq.	2: Flammable liquids – Category 2
	4: Acute toxicity – Category 4
	. 3: Acute toxicity – Category 3 2: Skin corrosion/irritation – Category 2
Eye Irrit.	2: Serious eye damage/eye irritation – Category 2
	3: Specific target organ toxicity (single exposure) – Category 3
	1: Aspiration hazard – Category 1 cute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic C	hronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
	hronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
* Data d	compared to the previous version altered.