

	SAFETY DATA SHEET	Page : 1 / 15
	COPPER PASTE IPA	Revision nr : 1.0
		Issue date : 23/11/2015
		Supersedes :

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

1.1. Product identifier

Product form : Mixture
Trade name/designation : COPPER PASTE IPA
Product code : 2500, 36, 4000, 5000, 6000, 9000, 13000, FT, 33000, A33000 / IPA / 80-20, 85-15, 90-10, 95-5

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

1.2.1. Relevant identified uses

Main use category : Industrial uses, Professional uses .

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

AVL METAL POWDERS n.v.
Elleboogstraat 7
B-8500 Kortrijk - Belgium, Europe
T +32 (0)56 22 00 21 - F +32 (0)56 22 64 14
BE 0405 375 371 - RPR Kortrijk
sales@avlmetalpowders.com - www.avlmetalpowders.com

1.4. Emergency telephone number

Emergency number : +32 (0)475 38 36 83
This telephone number is available 24 hours per day, 7 days per week.

Country	Official advisory body	Address	Emergency number
IRELAND (REPUBLIC OF)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 18 37 99 64/+353 1 809 21 66
UNITED KINGDOM	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours, healthcare professionals only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Sol. 1 H228
Acute Tox. 4 (Oral) H302
Eye Irrit. 2 H319
STOT SE 3 H336
Aquatic Acute 1 H400
Aquatic Chronic 2 H411

Full text of H-statements: see section 16

	SAFETY DATA SHEET	Page : 2 / 15
		Revision nr : 1.0
	COPPER PASTE IPA	Issue date : 23/11/2015
		Supersedes :

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms :



Signal word :

Danger

Hazardous ingredients :

copper, Isopropyl acetate

Hazard statements :

H228 - Flammable solid.
H302 - Harmful if swallowed.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H400 - Very toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P312 - Call a POISON CENTER/doctor// if you feel unwell.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

Other hazards :

Results of PBT and vPvB assessment : Not applicable. In dry state: Risk of dust explosion.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Substance name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
copper	(CAS No.) 7440-50-8 (EC No) 231-159-6 (REACH-no) 01-2119480154-42-XXXX	80 - 95	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 2, H411
Isopropyl acetate	(CAS No.) 108-21-4 (EC No) 203-561-1 (EC Index) 607-024-00-6 (REACH-no) 01-2119537214-46-XXXX	5 - 20	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Additional advice :

First aider: Pay attention to self-protection. Concerning personal protective equipment to use, see section 8. Treat symptomatically. Never give anything by mouth to an unconscious person or a person with cramps. In case of doubt or persistent symptoms, consult always a physician. Show this safety data sheet to the doctor in attendance.

	<h1>SAFETY DATA SHEET</h1>	Page : 3 / 15
		Revision nr : 1.0
	<h1>COPPER PASTE IPA</h1>	Issue date : 23/11/2015
		Supersedes :

Inhalation	: Remove person to fresh air and keep comfortable for breathing. In case of doubt or persistent symptoms, consult always a physician.
Skin contact	: Take off contaminated clothing. Gently wash with plenty of soap and water. In case of doubt or persistent symptoms, consult always a physician.
Eye contact	: Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. In case of doubt or persistent symptoms, consult always a physician.
In case of ingestion	: Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	: May cause drowsiness or dizziness. Repeated or prolonged exposure: (dust) : May cause respiratory irritation. At high concentrations, the vapours may cause narcosis . The following symptoms may occur: Fatigue, Headache, Drowsiness, Dizziness, Unconsciousness.
Skin contact	: Repeated exposure may cause skin dryness or cracking. The following symptoms may occur: erythema (redness), Pain.
Eye contact	: Causes serious eye irritation.
Ingestion	: Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Special powder against metal fire . Dry sand . ABC-powder . Co-ordinate fire-fighting measures to the fire surroundings.
Unsuitable extinguishing media	: water. Foam.

5.2. Special hazards arising from the substance or mixture

Specific hazards	: Flammable solid. Heating causes rise in pressure with risk of bursting.
Hazardous decomposition products in case of fire	: Carbon oxides (CO, CO ₂). Acetic acid.

5.3. Advice for firefighters

Firefighting instructions	: Evacuate area. Cool closed containers exposed to fire with water spray. Contain the extinguishing fluids by bunding. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.
Other information	: Do not allow run-off from fire-fighting to enter drains or water courses. Dispose of waste in accordance with environmental legislation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

For non-emergency personnel	: Evacuate personnel to a safe area. Provide adequate ventilation. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not breathe vapours/dust. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use explosion-proof machinery, apparatus, ventilation facilities, tools etc. Use only non-sparking tools.
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6.1.2. For emergency responders

For emergency responders	: Ensure procedures and training for emergency decontamination and disposal are in place. Concerning personal protective equipment to use, see section 8.
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	SAFETY DATA SHEET	Page : 4 / 15
		Revision nr : 1.0
	COPPER PASTE IPA	Issue date : 23/11/2015
		Supersedes :

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Stop leak if safe to do so. Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite or powdered limestone. Collect in closed and suitable containers for disposal. Dispose of contaminated materials in accordance with current regulations. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Disposal: see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use only in well ventilated areas. Provide adequate ventilation. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8 . Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not breathe vapours/dust. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Take any precaution to avoid mixing with incompatible materials. See also section 10. Ensure proper process control to avoid excess waste discharge (temperature, concentration, pH, time). Do not allow to enter into surface water or drains.

Hygiene measures : Keep good industrial hygiene. When using do not eat, drink or smoke. Wash hands before breaks and immediately after using the product. Take off contaminated clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Flammable solids. Keep container tightly closed in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from sunlight. Do not store near or with any of the incompatible materials listed in section 10. Maximum storage period : 3 months.

Packaging materials : Keep/Store only in original container.

7.3. Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

copper (7440-50-8)		
Austria	MAK (mg/m ³)	1 mg/m ³ (inhalable fraction) 0,1 mg/m ³ (respirable fraction, smoke)
Austria	MAK Short time value (mg/m ³)	4 mg/m ³ (inhalable fraction) 0,4 mg/m ³ (respirable fraction, smoke)
Belgium	Limit value (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Bulgaria	OEL TWA (mg/m ³)	0,1 mg/m ³ (metal vapor)
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust)
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	2 mg/m ³ (dust and fume)
Czech Republic	Expoziční limity (PEL) (mg/m ³)	1 mg/m ³ (dust) 0,1 mg/m ³ (fume)
Denmark	Grænseværdie (langvarig) (mg/m ³)	1,0 mg/m ³ (dust and powder) 0,1 mg/m ³ (fume)



SAFETY DATA SHEET

Page : 5 / 15

Revision nr : 1.0

Issue date : 23/11/2015

COPPER PASTE IPA

Supersedes :

copper (7440-50-8)

Estonia	OEL TWA (mg/m ³)	1 mg/m ³ (total dust) 0,2 mg/m ³ (respirable dust)
Finland	HTP-arvo (8h) (mg/m ³)	1 mg/m ³ 0,1 mg/m ³ (respirable dust and fume)
France	VME (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust)
France	VLE (mg/m ³)	2 mg/m ³ (dust)
Greece	OEL TWA (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust)
Greece	OEL STEL (mg/m ³)	2 mg/m ³ (dust)
Hungary	AK-érték	1 mg/m ³ 0,1 mg/m ³ (fume)
Hungary	CK-érték	4 mg/m ³ 0,4 mg/m ³ (fume)
Ireland	OEL (8 hours ref) (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Ireland	OEL (15 min ref) (mg/m ³)	0,6 mg/m ³ (calculated-fume) 2 mg/m ³ (dust and mist)
Latvia	OEL TWA (mg/m ³)	0,5 mg/m ³
Lithuania	IPRV (mg/m ³)	1 mg/m ³ (inhalable fraction) 0,2 mg/m ³ (respirable fraction)
Netherlands	Grenswaarde TGG 8H (mg/m ³)	0,1 mg/m ³ (inhalable fraction)
Poland	NDS (mg/m ³)	0,2 mg/m ³
Portugal	OEL TWA (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Romania	OEL TWA (mg/m ³)	0,50 mg/m ³ (powder)
Romania	OEL STEL (mg/m ³)	0,20 mg/m ³ (fume) 1,50 mg/m ³ (dust)
Slovakia	NPHV (priemerná) (mg/m ³)	1 mg/m ³ (dust) 0,1 mg/m ³ (fume)
Slovakia	NPHV (Hraničná) (mg/m ³)	2 mg/m ³ (dust) 0,2 mg/m ³ (fume)
Slovenia	OEL TWA (mg/m ³)	1 mg/m ³ (inhalable fraction) 0,1 mg/m ³ (respirable fraction, fume)
Slovenia	OEL STEL (mg/m ³)	4 mg/m ³ (inhalable fraction) 0,4 mg/m ³ (respirable fraction, fume)
Spain	VLA-ED (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Sweden	nivågränsvärde (NVG) (mg/m ³)	1 mg/m ³ (total dust) 0,2 mg/m ³ (respirable dust)
United Kingdom	WEL TWA (mg/m ³)	1 mg/m ³ (dust and mists) 0,2 mg/m ³ (fume)
United Kingdom	WEL STEL (mg/m ³)	0,6 mg/m ³ (calculated-fume) 2 mg/m ³ (dust and mist)
Norway	Grenseverdier (AN) (mg/m ³)	0,1 mg/m ³ (fume) 1 mg/m ³ (dust)
Norway	Grenseverdier (Korttidsverdi) (mg/m ³)	0,1 mg/m ³ (fume) 1 mg/m ³ (dust)
Switzerland	VME (mg/m ³)	0,1 mg/m ³ (inhalable dust)



SAFETY DATA SHEET

Page : 6 / 15

Revision nr : 1.0

Issue date : 23/11/2015

COPPER PASTE IPA

Supersedes :

copper (7440-50-8)

Switzerland	VLE (mg/m ³)	0,2 mg/m ³ (inhalable dust)
Australia	TWA (mg/m ³)	1 mg/m ³ (dust and mist) 0,2 mg/m ³ (fume)
Canada (Quebec)	VEMP (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
USA - ACGIH	ACGIH TWA (mg/m ³)	0,2 mg/m ³ (fume)
USA - IDLH	US IDLH (mg/m ³)	100 mg/m ³ (dust, fume and mist)
USA - NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³ (dust and mist) 0,1 mg/m ³ (fume)
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	0,1 mg/m ³ (fume) 1 mg/m ³ (dust and mist)

Isopropyl acetate (108-21-4)

Austria	MAK (mg/m ³)	420 mg/m ³
Austria	MAK (ppm)	100 ppm
Austria	MAK Short time value (mg/m ³)	420 mg/m ³
Austria	MAK Short time value (ppm)	100 ppm
Austria	OEL - Ceilings (mg/m ³)	420 mg/m ³
Austria	OEL - Ceilings (ppm)	100 ppm
Belgium	Limit value (mg/m ³)	424 mg/m ³
Belgium	Limit value (ppm)	100 ppm
Belgium	Short time value (mg/m ³)	849 mg/m ³
Belgium	Short time value	200 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	849 mg/m ³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	200 ppm
Czech Republic	Expoziční limity (PEL) (mg/m ³)	800 mg/m ³
Denmark	Grænseværdie (langvarig) (mg/m ³)	625 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	150 ppm
Finland	HTP-arvo (8h) (mg/m ³)	420 mg/m ³
Finland	HTP-arvo (8h) (ppm)	100 ppm
Finland	HTP-arvo (15 min)	850 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	200 ppm
France	VME (mg/m ³)	950 mg/m ³
France	VME (ppm)	250 ppm
France	VLE (mg/m ³)	1140 mg/m ³
France	VLE (ppm)	300 ppm
Greece	OEL TWA (mg/m ³)	950 mg/m ³
Greece	OEL TWA (ppm)	250 ppm
Greece	OEL STEL (mg/m ³)	1140 mg/m ³
Greece	OEL STEL (ppm)	275 ppm
Hungary	AK-érték	840 mg/m ³
Hungary	CK-érték	840 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	100 ppm
Ireland	OEL (15 min ref) (ppm)	200 ppm
Poland	NDS (mg/m ³)	600 mg/m ³

	SAFETY DATA SHEET	Page : 7 / 15
		Revision nr : 1.0
	COPPER PASTE IPA	Issue date : 23/11/2015
		Supersedes :

Isopropyl acetate (108-21-4)		
Poland	NDSch (mg/m ³)	1000 mg/m ³
Portugal	OEL TWA (ppm)	100 ppm
Portugal	OEL STEL (ppm)	200 ppm
Romania	OEL TWA (mg/m ³)	400 mg/m ³
Romania	OEL TWA (ppm)	96 ppm
Romania	OEL STEL (mg/m ³)	600 mg/m ³
Romania	OEL STEL (ppm)	144 ppm
Slovenia	OEL TWA (mg/m ³)	420 mg/m ³
Slovenia	OEL TWA (ppm)	100 ppm
Slovenia	OEL STEL (mg/m ³)	420 mg/m ³
Slovenia	OEL STEL (ppm)	100 ppm
Spain	VLA-ED (mg/m ³)	425 mg/m ³
Spain	VLA-ED (ppm)	100 ppm
Spain	VLA-EC (mg/m ³)	850 mg/m ³
Spain	VLA-EC (ppm)	200 ppm
United Kingdom	WEL STEL (mg/m ³)	849 mg/m ³
United Kingdom	WEL STEL (ppm)	200 ppm
Australia	TWA (mg/m ³)	1040 mg/m ³
Australia	TWA (ppm)	250 ppm
Australia	STEL (mg/m ³)	1290 mg/m ³
Australia	STEL (ppm)	310 ppm

Additional information : Personal air monitoring :. Room air monitoring. Recommended monitoring procedures

8.2. Exposure controls

- Engineering control measures : Provide adequate ventilation. Organisational measures to prevent /limit releases, dispersion and exposure. Safe handling: see section 7 . Use only outdoors or in a well-ventilated area. Take precautionary measures against static discharges. Ensure equipment is adequately grounded.
- Personal protection equipment : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Hand protection : Wear chemically resistant gloves (tested to EN374) . The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves. Butyl rubber. Breakthrough time (maximum wearing time) : >480 '. PVA (Polyvinyl alcohol)
- Eye protection : tightly fitting safety goggles (EN 166). Wear eye glasses with side protection according to EN 166.
- Body protection : Wear suitable protective clothing.
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Half-face mask (DIN EN 140). Full face mask (EN 136). Filter type: A/P (EN 141)
- Thermal hazard protection : Not required for normal conditions of use. Use dedicated equipment.
- Environmental exposure controls : Avoid release to the environment. Comply with applicable Community environmental protection legislation.

	SAFETY DATA SHEET	Page : 8 / 15
		Revision nr : 1.0
	COPPER PASTE IPA	Issue date : 23/11/2015
		Supersedes :

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Paste
Appearance	: Paste.
Colour	: Copper.
Odour	: Fruity.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: 2,5 isopropyl acetate
Melting point/freezing point	: 1.059 - 1.069 °C copper -73,4 °C isopropyl acetate
Freezing point	: No data available
Initial boiling point and boiling range	: 88 - 93 °C isopropyl acetate
Flash point	: 4 °C isopropyl acetate
Auto-ignition temperature	: 460 °C isopropyl acetate
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable solid
Vapour pressure	: 6,07 kPa isopropyl acetate
Vapour density	: 3,5 isopropyl acetate
Relative density	: (20°C) 0,87 isopropyl acetate
Density	: (Cu) 8,78 g/cm ³
Solubility	: isopropyl acetate. soluble in water. copper. Insoluble.
Partition coefficient n-octanol/water	: 1,18 - 1,3 isopropyl acetate
Kinematic viscosity	: No data available
Dynamic viscosity	: (20°C) 0,000525 Pa.s isopropyl acetate
Explosive properties	: Not applicable. The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.
Oxidising properties	: Not applicable. The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with oxidising properties.
Explosive limits	: L.E.L: 1,8 vol % isopropyl acetate U.E.L: 8 vol % isopropyl acetate

9.2. Other information

VOC content : 5 - 20 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable solid. Reference to other sections: 10.5.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Avoid dust formation. Moisture. See also section 7. Handling and storage.

	SAFETY DATA SHEET	Page : 9 / 15
		Revision nr : 1.0
	COPPER PASTE IPA	Issue date : 23/11/2015
		Supersedes :

10.5. Incompatible materials

Strong acids and oxidizing agents. Halogens. Halogenated compounds. water. See also section 7. Handling and storage.

10.6. Hazardous decomposition products

Reference to other sections: 5.2.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

copper (7440-50-8)	
LD50/oral/rat	300 - 500 mg/kg
LD50/dermal/rat	> 2000 mg/kg
LC50/inhalation/4h/rat	>= 5,11 mg/l

Isopropyl acetate (108-21-4)	
LD50/oral/rat	6750 mg/kg bodyweight OECD 401
LD50/dermal/rabbit	24h 17400 mg/kg bodyweight Draize Test
LC50, Inhalation, Rat	50600 mg/m ³ (8 hours, OECD 403)

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met.)
pH: No data available

Serious eye damage/eye irritation : Causes serious eye irritation.
pH: No data available

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met.)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met.)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met.)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met.)

STOT-single exposure : May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met.)

copper (7440-50-8)	
NOAEL, subchronic, oral, Rat	16.7 mg/kg bw/day

Isopropyl acetate (108-21-4)	
LOAEL (oral, rat, 90 days)	3600 mg/kg bodyweight/day
NOAEL (oral, rat, 90 days)	900 mg/kg bodyweight/day OECD 408
NOAEL (inhalation, rat, vapour, 90 days)	3500 ppm EPA OTS 798.2450

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met.)

COPPER PASTE IPA	
Kinematic viscosity	0,05979499 mm ² /s

Other adverse effects : None.

Other information : Symptoms related to the physical, chemical and toxicological characteristics. For further information see section 4.

SECTION 12: Ecological information

12.1. Toxicity

Environmental properties : Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

copper (7440-50-8)	
LC50 fish 1	190 - 210 µg/l
NOEC chronic fish	11,4 µg/L

	SAFETY DATA SHEET	Page : 10 / 15
		Revision nr : 1.0
	COPPER PASTE IPA	Issue date : 23/11/2015
		Supersedes :

Isopropyl acetate (108-21-4)	
EC50 Daphnia 1	> 1000 mg/l Freshwater (US EPA)
LC50 fish 2	48h 360 mg/l Freshwater (DIN 38412-15)
ErC50 (algae)	72h 370 mg/l Freshwater (OECD 201)

12.2. Persistence and degradability

COPPER PASTE IPA	
Persistence and degradability	No data available.

12.3. Bioaccumulative potential

COPPER PASTE IPA	
Partition coefficient n-octanol/water	1,18 - 1,3 isopropyl acetate
Bioaccumulative potential	No data available.

copper (7440-50-8)	
Partition coefficient n-octanol/water	Not applicable

12.4. Mobility in soil

COPPER PASTE IPA	
Mobility in soil	No data available

12.5. Results of PBT and vPvB assessment

COPPER PASTE IPA	
Results of PBT assessment	No data available

12.6. Other adverse effects

Other adverse effects : No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Handle with care. Safe handling: see section 7. Handling and storage. Collect and dispose of waste product at an authorised disposal facility. Refer to manufacturer/supplier for information on recovery/recycling. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of contaminated materials in accordance with current regulations.

Additional information : If recycling is not practicable, dispose of in compliance with local regulations. Empty containers should be taken to local recyclers for disposal. Do not burn, or use a cutting torch on, the empty drum. Do not puncture or incinerate.

Further ecological information : Do not allow to enter into surface water or drains.






List of proposed waste codes/waste designations in accordance with EWC (2001/573/EC, 75/442/EEC, 91/689/EEC) : Classified as hazardous waste according to European Union regulations. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1325	1325	1325	1325	1325
14.2. UN proper shipping name				
FLAMMABLE SOLID, ORGANIC, N.O.S.	FLAMMABLE SOLID, ORGANIC, N.O.S.(copper;isopropyl acetate)	Flammable solid, organic, n.o.s.(copper;isopropyl acetate)	_ADN_PSN_1325_1 (copper;isopropyl acetate)	FLAMMABLE SOLID, ORGANIC, N.O.S.(copper;isopropyl acetate)
Transport document description				
UN 1325	UN 1325 FLAMMABLE SOLID,			

	SAFETY DATA SHEET	Page : 11 / 15
		Revision nr : 1.0
	COPPER PASTE IPA	Issue date : 23/11/2015
		Supersedes :

ADR	IMDG	IATA	ADN	RID
FLAMMABLE SOLID, ORGANIC, N.O.S., 4.1, II, (E), ENVIRONMENTALLY HAZARDOUS	ORGANIC, N.O.S.(copper;isopropyl acetate), 4.1, II, MARINE POLLUTANT/ENVIRONMENT ALLY HAZARDOUS			
14.3. Transport hazard class(es)				
4.1	4.1	4.1	4.1	4.1
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

14.6. Special precautions for user

Special precautions for user : No data available

- Overland transport

Classification code (ADR) : F1
 Special Provisions : 274
 Limited quantities (ADR) : 1kg
 Excepted quantities (ADR) : E2
 Packing instructions (ADR) : P002, IBC08
 Special packing provisions (ADR) : B4
 Mixed packing provisions (ADR) : MP10
 Portable tank and bulk container
 instructions (ADR) : T3
 Portable tank and bulk container special
 provisions (ADR) : TP33
 Tank code (ADR) : SGAN
 Vehicle for tank carriage : AT
 Transport category (ADR) : 2
 Special provisions for carriage - Packages
 (ADR) : V11
 Hazard identification number (Kemler No.) : 40
 Orange plates :



tunnel restriction code : E
 EAC code : 1Z

	SAFETY DATA SHEET	Page : 12 / 15
		Revision nr : 1.0
	COPPER PASTE IPA	Issue date : 23/11/2015
		Supersedes :

- Transport by sea

Special provisions (IMDG) : 274, 915
 Limited quantities (IMDG) : 1 kg
 Excepted quantities (IMDG) : E2
 Packing instructions (IMDG) : P002
 IBC packing instructions (IMDG) : IBC08
 IBC special provisions (IMDG) : B2, B4
 Tank instructions (IMDG) : T3
 Tank special provisions (IMDG) : TP33
 EmS-No. (Fire) : F-A
 EmS-No. (Spillage) : S-G
 Stowage category (IMDG) : B

- Air transport

PCA Excepted quantities (IATA) : E2
 PCA Limited quantities (IATA) : Y441
 PCA limited quantity max net quantity (IATA) : 5kg
 PCA packing instructions (IATA) : 445
 PCA max net quantity (IATA) : 15kg
 CAO packing instructions (IATA) : 448
 CAO max net quantity (IATA) : 50kg
 Special provisions (IATA) : A3
 ERG code (IATA) : 3L

- Inland waterway transport

Classification code (ADN) : F1
 Special provisions (ADN) : 274
 Limited quantities (ADN) : 1 kg
 Excepted quantities (ADN) : E2
 Equipment required (ADN) : PP
 Number of blue cones/lights (ADN) : 1
 Carriage prohibited (ADN) : No
 Not subject to ADN : No

- Rail transport

Classification code (RID) : F1
 Special provisions (RID) : 274
 Limited quantities (RID) : 1kg
 Excepted quantities (RID) : E2
 Packing instructions (RID) : P002, IBC08
 Special packing provisions (RID) : B4
 Mixed packing provisions (RID) : MP10
 Portable tank and bulk container instructions (RID) : T3
 Portable tank and bulk container special provisions (RID) : TP33
 Tank codes for RID tanks (RID) : SGAN
 Transport category (RID) : 2

	SAFETY DATA SHEET	Page : 13 / 15
		Revision nr : 1.0
	COPPER PASTE IPA	Issue date : 23/11/2015
		Supersedes :

Special provisions for carriage – Packages : W1 (RID)
 Colis express (express parcels) (RID) : CE10
 Hazard identification number (RID) : 40
 Carriage prohibited (RID) : No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Code: IBC : No data available.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	Isopropyl acetate
3.a. Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F	COPPER PASTE IPA - copper - Isopropyl acetate
3.b. Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	COPPER PASTE IPA - copper - Isopropyl acetate
3.c. Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1	COPPER PASTE IPA - copper
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	copper - Isopropyl acetate

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : 5 - 20 %

15.1.2. National regulations

France :
 Installations classées : 1450

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 4)
 German storage class (LGK) : LGK 4.1B - Flammable solids
 12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

Waterbezuwaarlijkheid : 5 - Very toxic to aquatic organisms
 Saneringsinspanningen : B - Lozing minimaliseren; toepassen van best uitvoerbare technieken
 SZW-lijst van kankerverwekkende stoffen : None of the components are listed
 SZW-lijst van mutagene stoffen : None of the components are listed

	SAFETY DATA SHEET	Page : 14 / 15
		Revision nr : 1.0
		Issue date : 23/11/2015
	COPPER PASTE IPA	Supersedes :

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out
copper Isopropyl acetate

SECTION 16: Other information

Abbreviations and acronyms:

	ABM = Algemene beoordelingsmethodiek
	ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC IATA = International Air Transport Association IMDG = International Maritime Dangerous Goods Code LEL = Lower Explosive Limit/Lower Explosion Limit UEL = Upper Explosion Limit/Upper Explosive Limit REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
	BTT = Breakthrough time (maximum wearing time)
	DMEL = Derived Minimal Effect level
	DNEL = Derived No Effect Level
	EC50 = Median Effective Concentration
	EL50 = Median effective level
	ErC50 = EC50 in terms of reduction of growth rate
	ErL50 = EL50 in terms of reduction of growth rate
	EWC = European waste catalogue
	LC50 = Median lethal concentration
	LD50 = Median lethal dose
	LL50 = Median lethal level
	NA = Not applicable
	NOEC = No observed effect concentration
	NOEL: no-observed-effect level
	NOELR = No observed effect loading rate
	NOAEC = No observed adverse effect concentration
	NOAEL = No observed adverse effect level
	N.O.S. = Not Otherwise Specified
	OEL = Occupational Exposure Limits - Short Term Exposure Limits (STELs)
	PNEC = Predicted No Effect Concentration
	Quantitative structure-activity relationship (QSAR)

	SAFETY DATA SHEET	Page : 15 / 15
	COPPER PASTE IPA	Revision nr : 1.0
		Issue date : 23/11/2015
		Supersedes :

	STOT = Specific Target Organ Toxicity
	TWA = time weighted average
	VOC = Volatile organic compounds
	WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)

Sources of key data used to compile the datasheet : European Metal Particulate Association (EMPA) Supplier SDS.

Other information : CLP, Article 9: Calculation method.

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Aquatic Acute 1
Aquatic Chronic 2	Hazardous to the aquatic environment - chronic hazard category 2
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Sol. 1	Flammable solids, Hazard Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
H228	Flammable solid.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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