

AMPACT/EXCLTAP Cartridges

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

1.1. Product identifier

Product name : AMPACT/EXCLTAP Cartridges
Registration number REACH : Not applicable (article)
Product type REACH : Special container containing a substance/mixture
: Under normal conditions of use the substance is released from a cartridge only inside an appropriate printing system
: The information refers to the substance/mixture

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

1.2.1 Relevant identified uses

Toner

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

TYCO ELECTRONICS Raychem GmbH - Energy Division
 Finsinger Feld 1
 85521 Ottobrunn, Germany
 ☎ +49 89 608 90
 MSDSEnergy@te.com

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
 +32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Expl.	division 1.4	H204: Fire or projection hazard.
Acute Tox.	category 3	H311: Toxic in contact with skin.
Acute Tox.	category 3	H301: Toxic if swallowed.
Acute Tox.	category 4	H332: Harmful if inhaled.
Aquatic Chronic	category 2	H411: Toxic to aquatic life with long lasting effects.

2.2. Label elements



Contains: nitroglycerine.

Signal word

Danger

H-statements

H204 : Fire or projection hazard.
 H301 + H311 : Toxic if swallowed or in contact with skin.
 H332 : Harmful if inhaled.
 H411 : Toxic to aquatic life with long lasting effects.

P-statements

P210 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P280 : Wear protective gloves, protective clothing and eye protection/face protection.
 P304 + P340 : IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P361 + P364 : Take off immediately all contaminated clothing and wash it before reuse.
 P330 : Rinse mouth.
 P301 + P310 : IF SWALLOWED: Immediately call a POISON CENTER/doctor.

2.3. Other hazards

Pulverization rapidly increases toxic concentration

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
copper	7440-50-8 231-159-6	1%≤C≤5 %	Aquatic Acute 1; H400 Aquatic Chronic 2; H411	(1)(2)(10)	Constituent	M: 1 (Acute, ECHA (registration dossier))
nitroglycerine	55-63-0 200-240-8	0.5%≤C<2 %	Expl. - Unst. Expl.; H200 Acute Tox. 2; H330 Acute Tox. 1; H310 Acute Tox. 2; H300 STOT RE 2; H373 Aquatic Chronic 2; H411	(1)(2)(10)	Constituent	
zinc powder - zinc dust (stabilised)	7440-66-6 231-175-3	0.5%≤C≤2 %	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	(1)(10)	Constituent	M: 1 (Acute, ECHA (registration dossier)) M: 1 (Chronic, ECHA (registration dossier))

(1) For H- and EUH-statements in full: see section 16

(2) Substance with a Community workplace exposure limit

(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

After inhalation:

Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately for 30 minutes with (lukewarm) water. Cut clothing; never remove burnt clothing from the wound. Do not give any pain medication. Consult a doctor/medical service.

After eye contact:

Rinse immediately with (lukewarm) water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.

After ingestion:

Rinse mouth with water. Immediately consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

4.2.1 Acute symptoms

After inhalation:

No effects known.

After skin contact:

No effects known.

After eye contact:

No effects known.

After ingestion:

No effects known.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

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Small fire: Quantities of water.

Major fire: Quantities of water.

5.2. Special hazards arising from the substance or mixture

Upon combustion CO and CO₂ are formed and formation of metal oxides. On heating/burning: formation of small quantities of nitrous vapours.

5.3. Advice for firefighters

5.3.1 Instructions:

If exposed to fire cool the closed containers by spraying with water. Extinguish/cool from behind cover/unmanned monitors. Depending on nature/size of load: consider extinguishment. Do not move the load if exposed to heat. Re-ignition is possible after the extinguishment. After extinguishing: flood seat of fire with plenty of water. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. Take account of toxic fire-fighting water.

5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). Face shield (EN 166). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137). Dust cloud production: dust-tight suit (EN 13982). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Prevent dust cloud formation. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment.

6.1.1 Protective equipment for non-emergency personnel

See section 8.2

6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Face shield (EN 166). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137). Dust cloud production: dust-tight suit (EN 13982).

Suitable protective clothing

See section 8.2

6.2. Environmental precautions

Dam up the solid spill. Cover with a water blanket. Knock down/dilute dust cloud with water spray. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Start with disposal only in the presence of experts. Scoop solid spill into closing containers. Wet with an excess of water. Carefully collect the spill/leftovers. Store under water in containers. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See section 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Avoid raising dust. Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Observe strict hygiene. Remove contaminated clothing immediately. Keep container tightly closed. Avoid shock and friction. Do not discharge the waste into the drain.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Storage temperature: < 52 °C. Fireproof storeroom. Keep locked up. Unauthorized persons are not admitted. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources, ignition sources, oxidizing agents, (strong) acids, (strong) bases.

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer. Refer to TE Connectivity product installation instructions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

EU

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Glycerol trinitrate	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	0.01 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	0.095 mg/m ³
	Short time value (Indicative occupational exposure limit value)	0.02 ppm
	Short time value (Indicative occupational exposure limit value)	0.19 mg/m ³

Belgium

Cuivre (fumées) (en Cu)	Time-weighted average exposure limit 8 h	0.2 mg/m ³
Cuivre (poussières et brouillards de) (en Cu)	Time-weighted average exposure limit 8 h	1 mg/m ³
Nitroglycérine	Time-weighted average exposure limit 8 h	0.01 ppm
	Time-weighted average exposure limit 8 h	0.095 mg/m ³
	Short time value	0.02 ppm
	Short time value	0.19 mg/m ³

The Netherlands

Glyceroltrinitraat	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.01 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.095 mg/m ³
	Short time value (Public occupational exposure limit value)	0.02 ppm
	Short time value (Public occupational exposure limit value)	0.19 mg/m ³
Koper en anorganische koperverbindingen (inhaleerbaar)	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.038 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.1 mg/m ³

France

Cuivre (fumées)	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	0.2 mg/m ³
Cuivre (poussières), en Cu	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	1 mg/m ³
	Short time value (VL: Valeur non réglementaire indicative)	2 mg/m ³
Trinitrate de glycérol	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	0.01 ppm
	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	0.095 mg/m ³
	Short time value (VRI: Valeur réglementaire indicative)	0.02 ppm
	Short time value (VRI: Valeur réglementaire indicative)	0.19 mg/m ³

Germany

Glycerintrinitrat	Time-weighted average exposure limit 8 h (TRGS 900)	0.01 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	0.094 mg/m ³

Austria

Glycerintrinitrat	Tagesmittelwert (MAK)	0.01 ppm
	Tagesmittelwert (MAK)	0.095 mg/m ³
	Kurzzeitwert 15(Miw) 4x (MAK)	0.02 ppm
	Kurzzeitwert 15(Miw) 4x (MAK)	0.19 mg/m ³
Kupfer und seine Verbindungen(als Rauch)	Tagesmittelwert (MAK)	0.1 mg/m ³
	Kurzzeitwert 15(Miw) 4x (MAK)	0.4 mg/m ³
Kupfer und seine Verbindungen	Tagesmittelwert (MAK)	1 mg/m ³
	Kurzzeitwert 15(Miw) 4x (MAK)	4 mg/m ³

UK

Copper and compounds: dusts and mists (as Cu)	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	2 mg/m ³
Copper fume	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.2 mg/m ³
Glycerol trinitrate	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.01 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.095 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	0.02 ppm
	Short time value (Workplace exposure limit (EH40/2005))	0.19 mg/m ³

USA (TLV-ACGIH)

Copper dusts and mists, as Cu	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	1 mg/m ³
Copper fume, as Cu	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.2 mg/m ³

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Nitroglycerin	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.05 ppm
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b) National biological limit values

If limit values are applicable and available these will be listed below.

UK

Glycerol trinitrate (Nitroglycerin) (total nitroglycerols)	Urine: at the end of the period of exposure	15 µmol/mol creatinine	
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USA (BEI-ACGIH)

Methemoglobin inducers (Methemoglobin)	Blood: during or end of shift	5 % of hemoglobin	Background, Nonspecific
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8.1.2 Sampling methods

Product name	Test	Number
1,2,3-propanetriol trinitrate	NIOSH	2507NIT
Copper (Cu)	NIOSH	7302
Copper (Cu)	NIOSH	7304
Copper (Cu)	NIOSH	7306
Copper (Cu)	NIOSH	8005
Copper (Cu)	NIOSH	8310
Copper (Elements on wipes)	NIOSH	9102
Copper (Elements)	NIOSH	7300
Copper (Elements, aqua regia ashing)	NIOSH	7301
Copper (Elements, hot block/HCl/HNO3 digestion)	NIOSH	7303
Copper Dust and fume	NIOSH	7029
Copper	OSHA	1006
Copper	OSHA	ID 105
Copper	OSHA	ID 121
Copper	OSHA	ID 125G
Copper	OSHA	ID 206
Nitroglycerin	NIOSH	2507
Nitroglycerin	OSHA	43
Zinc & Cpds (as Zn)	NIOSH	7030
Zinc (Elements on wipes)	NIOSH	9102
Zinc (Elements)	NIOSH	7300
Zinc (Elements, aqua regia ashing)	NIOSH	7301
Zinc (Elements, hot block/HCl/HNO3 digestion)	NIOSH	7303
Zinc (Zn)	NIOSH	7306
Zinc (Zn)	NIOSH	8005
Zinc (Zn)	NIOSH	8310
Zinc	NIOSH	7030
Zinc	OSHA	1006
Zinc	OSHA	ID 105
Zinc	OSHA	ID 121
Zinc	OSHA	ID 125G

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

copper

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	137 mg/kg bw/day	
	Acute systemic effects dermal	273 mg/kg bw/day	

nitroglycerine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	0.5 mg/kg bw/day	
	Acute systemic effects dermal	2.5 mg/kg bw/day	

zinc powder - zinc dust (stabilised)

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	5 mg/m³	
	Long-term systemic effects dermal	83 mg/kg bw/day	

DNEL/DMEL - General population

copper

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	1 mg/m³	
	Acute local effects inhalation	1 mg/m³	
	Long-term systemic effects dermal	137 mg/kg bw/day	
	Acute systemic effects dermal	273 mg/kg bw/day	
	Long-term systemic effects oral	0.041 mg/kg bw/day	

nitroglycerine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects oral	0.5 mg/kg bw/day	

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zinc powder - zinc dust (stabilised)

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2.5 mg/m ³	
	Long-term systemic effects dermal	83 mg/kg bw/day	
	Long-term systemic effects oral	0.83 mg/kg bw/day	

PNEC

copper

Compartment	Value	Remark
Fresh water	7.8 µg/l	
Marine water	5.2 µg/l	
STP	230 µg/l	
Fresh water sediment	87 mg/kg sediment dw	
Marine water sediment	676 mg/kg sediment dw	
Soil	65 mg/kg soil dw	

nitroglycerine

Compartment	Value	Remark
Fresh water	0.02 mg/l	
Fresh water (intermittent releases)	0.02 mg/l	

zinc powder - zinc dust (stabilised)

Compartment	Value	Remark
Fresh water	20.6 µg/l	
Marine water	6.1 µg/l	
STP	100 µg/l	
Fresh water sediment	117.8 mg/kg sediment dw	
Marine water sediment	121 mg/kg sediment dw	
Soil	106.8 mg/kg soil dw	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Avoid raising dust. Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe strict hygiene. Do not eat, drink or smoke during work.

a) Respiratory protection:

Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus (EN 136 + EN 137).

b) Hand protection:

Protective gloves against chemicals (EN 374).

Materials	Remark
polyethylene	Good resistance

c) Eye protection:

Face shield (EN 166). In case of dust production: protective goggles (EN 166).

d) Skin protection:

Protective clothing (EN 14605 or EN 13034). In case of dust production: head/neck protection. In case of dust production: dustproof clothing (EN 13982).

8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Solid
Odour	Almost odourless
Odour threshold	No data available in the literature
Colour	Variable in colour, depending on the composition
Particle size	No data available in the literature
Explosion limits	No data available in the literature
Flammability	Not classified as flammable
Log Kow	Not applicable (mixture)
Dynamic viscosity	Not applicable (solid)
Kinematic viscosity	Not applicable (solid)
Melting point	No data available in the literature
Boiling point	No data available in the literature
Relative vapour density	Not applicable (solid)
Vapour pressure	No data available in the literature
Solubility	Water ; insoluble
Relative density	1.67

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Absolute density	1670 kg/m ³
Decomposition temperature	No data available in the literature
Auto-ignition temperature	No data available in the literature
Flash point	Not applicable (solid)
pH	No data available in the literature

9.2. Other information

Evaporation rate	Not applicable (solid)
Explosive properties	Fire or projection hazard.

SECTION 10: Stability and reactivity

10.1. Reactivity

Fire/heat: explosive hazard bigger than fire hazard.

10.2. Chemical stability

Unstable on exposure to heat.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Avoid raising dust. Use spark-/explosionproof appliances and lighting system. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

10.5. Incompatible materials

Oxidizing agents, (strong) acids, (strong) bases.

10.6. Hazardous decomposition products

Upon combustion CO and CO₂ are formed and formation of metal oxides. On heating/burning: formation of small quantities of nitrous vapours.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

11.1.1 Test results

Acute toxicity

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No (test)data on the mixture available

Classification is based on the relevant ingredients

copper

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 423	> 2500 mg/kg bw		Rat (male)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation (dust)	LC50	OECD 436	> 5.11 mg/l	4 h	Rat (male / female)	Experimental value	

nitroglycerine

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		1055 mg/kg bw - 1188 mg/kg bw		Mouse (male / female)	Experimental value	
Oral	LD50	16 CFR 1500.3	685 mg/kg bw		Rat (male / female)	Experimental value	
Oral			category 2			Annex VI	
Dermal	LD50	Equivalent to OECD 402	> 9560 mg/kg bw		Rat (male / female)	Experimental value	
Dermal			category 1			Annex VI	
Inhalation						Data waiving	
Inhalation			category 2			Annex VI	

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

zinc powder - zinc dust (stabilised)

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	> 2000 mg/kg bw		Rat (male / female)	Experimental value	
Dermal						Data waiving	
Inhalation (dust)	LD50	OECD 403	> 5.41 mg/l air	4 h	Rat (male / female)	Experimental value	

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Conclusion

Toxic if swallowed.
Toxic in contact with skin.
Harmful if inhaled.

Corrosion/irritation

AMPACT/EXCLTAP Cartridges

No (test)data on the mixture available
Judgement is based on the relevant ingredients
copper

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		24; 48; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	OECD 404	4 h	1; 24; 48; 72 hours	Rabbit	Experimental value	

nitroglycerine

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	16 CFR 1500.42		24; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Slightly irritating	21 CFR 191.11	24 h	24; 72 hours	Rabbit	Experimental value	

zinc powder - zinc dust (stabilised)

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405	24 h	24; 72 hours	Rabbit	Experimental value	
Skin	Not irritating		5 day(s)		Rabbit	Read-across	
Inhalation	Not irritating	Human observation			Human	Read-across	

Conclusion

Not classified as irritating to the respiratory system
Not classified as irritating to the skin
Not classified as irritating to the eyes

Respiratory or skin sensitisation

AMPACT/EXCLTAP Cartridges

No (test)data on the mixture available
Judgement is based on the relevant ingredients
copper

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (male)	Experimental value	

nitroglycerine

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Ambiguous	Guinea pig maximisation test			Guinea pig	Experimental value	

zinc powder - zinc dust (stabilised)

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (female)	Read-across	

Conclusion

Not classified as sensitizing for inhalation
Not classified as sensitizing for skin

Specific target organ toxicity

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No (test)data on the mixture available
Judgement is based on the relevant ingredients

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copper

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Equivalent to EU Method B.26	1000 ppm		No effect	13 weeks (7 days / week)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation (dust)	NOAEL	OECD 412	≥ 2 mg/m ³ air		No effect	4 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

nitroglycerine

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Equivalent to OECD 452	3.04 mg/kg bw/day - 3.99 mg/kg bw/day		No effect	24 month(s)	Rat (male / female)	Experimental value
Oral (diet)	LOAEL	Equivalent to OECD 452	31.5 mg/kg bw/day - 38.1 mg/kg bw/day	Blood; liver	Impairment/d egeneration	24 month(s)	Rat (male / female)	Experimental value
Inhalation								Data waiving
Inhalation			STOT RE cat.2	Blood system	Cardiac and blood circulation effects			Annex VI

zinc powder - zinc dust (stabilised)

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	OECD 408	31.52 mg/kg bw/day		No effect	13 weeks (daily)	Rat (male / female)	Read-across
Oral (diet)	LOAEL	OECD 408	53.8 mg/kg bw/day	Blood	Change in the haemogramme/blood composition	13 weeks (daily)	Rat (male / female)	Read-across
Dermal								Data waiving
Inhalation (aerosol)	Dose level		0.1 mg/m ³		No effect	16 weeks (6h / day, 5 days / week)	Rat (male)	Read-across

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

copper

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)		Experimental value	

nitroglycerine

Result	Method	Test substrate	Effect	Value determination	Remark
Positive with metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value	
Negative without metabolic activation	Equivalent to OECD 476	Chinese hamster ovary (CHO)		Experimental value	

zinc powder - zinc dust (stabilised)

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S. typhimurium and E. coli)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 473	Chinese hamster lung fibroblasts (V79)	No effect	Experimental value	

Mutagenicity (in vivo)

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

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copper

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (stomach tube))	EU Method B.12	2 dose(s)/24-hour interval	Mouse (male / female)		Experimental value

nitroglycerine

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (diet))	Equivalent to OECD 475	4 week(s) - 13 week(s)	Rat (male / female)	Bone marrow	Experimental value

zinc powder - zinc dust (stabilised)

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Inhalation (aerosol))	OECD 474	2 weeks (6h / day, 5 days / week)	Rat (male / female)		Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

AMPACT/EXCLTAP Cartridges

No (test)data on the mixture available

Judgement is based on the relevant ingredients

zinc powder - zinc dust (stabilised)

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral (drinking water)	NOAEL	Carcinogenic toxicity study	≥ 22000 mg/l	52 weeks (daily)	Mouse (male / female)	No carcinogenic effect		Read-across

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

AMPACT/EXCLTAP Cartridges

No (test)data on the mixture available

Judgement is based on the relevant ingredients

copper

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	6 mg/kg bw/day	22 day(s)	Rabbit	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	6 mg/kg bw/day	22 day(s)	Rabbit	No effect		Experimental value
Effects on fertility (Oral (diet))	NOAEL	EPA OPPTS 837.3800	1000 ppm - 1500 ppm		Rat (male / female)	No effect		Experimental value

nitroglycerine

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (diet))	NOEL	Developmental toxicity study	6.4 mg/kg bw/day	10 day(s)	Rat	No effect		Experimental value
Effects on fertility (Oral (diet))	NOEL (F1)	Equivalent to OECD 416	39 mg/kg bw/day - 46 mg/kg bw/day	5 month(s) - 6 month(s)	Rat (male / female)	No effect		Experimental value

zinc powder - zinc dust (stabilised)

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	Developmental toxicity study	42.5 mg/kg bw/day	10 day(s)	Rat	No effect		Read-across
Maternal toxicity (Oral (stomach tube))	NOAEL	Developmental toxicity study	42.5 mg/kg bw/day	10 day(s)	Rat	No effect		Read-across
Effects on fertility (Oral (stomach tube))	LOAEL	Equivalent to OECD 416	7.5 mg/kg bw/day		Rat (male / female)	Reproductive performance		Read-across

Conclusion

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

AMPACT/EXCLTAP Cartridges

No (test)data on the mixture available

Chronic effects from short and long-term exposure

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No effects known.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

AMPACT/EXCLTAP Cartridges

No (test)data on the mixture available

Classification of the mixture is based on the relevant ingredients

copper

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	APHA	810 µg/l	96 h	Cyprinus carpio		Fresh water	Experimental value
Acute toxicity crustacea	EC50	OECD 202	792 µg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	NOEC	Equivalent to OECD 201	164 µg/l	72 h	Algae	Static system	Fresh water	Experimental value; Biomass
Long-term toxicity fish	NOEC	OECD 210	109 µg/l	32 day(s)	Cyprinodon variegatus	Flow-through system	Salt water	Experimental value; GLP
Long-term toxicity aquatic crustacea	NOEC	OECD 211	181 µg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction

nitroglycerine

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	ASTM E729-80	1.9 mg/l	96 h	Oncorhynchus mykiss	Flow-through system	Fresh water	Experimental value; Lethal
Acute toxicity crustacea	LC50	ASTM E729-80	17.83 mg/l	48 h	Ceriodaphnia dubia	Static system	Fresh water	Experimental value; Lethal
Toxicity algae and other aquatic plants	EC50	US EPA	1.15 mg/l	96 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Cell numbers
Long-term toxicity fish	NOEC	ASTM	0.03 mg/l	60 day(s)	Oncorhynchus mykiss	Flow-through system	Fresh water	Experimental value; Dry weight
Long-term toxicity aquatic crustacea	NOEC	ASTM	3.23 mg/l	7 day(s)	Ceriodaphnia dubia	Static system	Fresh water	Experimental value
Toxicity aquatic micro-organisms								Data waiving

zinc powder - zinc dust (stabilised)

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	ASTM E729-88	0.169 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Experimental value; Lethal
Acute toxicity crustacea	EC50	OECD 202	416 µg/l	48 h	Ceriodaphnia dubia	Static system	Fresh water	Experimental value
Toxicity algae and other aquatic plants	IC50	OECD 201	0.150 mg/l	72 h	Selenastrum capricornutum	Static system	Fresh water	Experimental value; Zinc ion
	NOEC	OECD 201	0.050 mg/l	72 h	Selenastrum capricornutum	Static system	Fresh water	Experimental value; Zinc ion
Long-term toxicity fish	NOEC	US EPA	85 µg/l	7 day(s)	Pimephales promelas	Semi-static system	Fresh water	Experimental value; Lethal
Long-term toxicity aquatic crustacea	NOEC	US EPA	0.025 mg/l - 0.050 mg/l	1 week(s)	Ceriodaphnia dubia	Semi-static system	Fresh water	Experimental value; Zinc ion
Toxicity aquatic micro-organisms	IC50	ISO 9509:2006	0.35 mg/l	4 h	Activated sludge	Static system	Fresh water	Experimental value; Nominal concentration

Conclusion

Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

nitroglycerine

Biodegradation water

Method	Value	Duration	Value determination
	92.2 %	84 h	Experimental value

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Conclusion

Water

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

AMPACT/EXCLTAP Cartridges

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

copper

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (inorganic)			

nitroglycerine

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
					Data waiving

Log Kow

Method	Remark	Value	Temperature	Value determination
		2.04	21 °C	Experimental value

zinc powder - zinc dust (stabilised)

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		0.002	40 day(s)	Danio rerio	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (inorganic)			

Conclusion

No straightforward conclusion can be drawn based upon the available numerical values

12.4. Mobility in soil

nitroglycerine

(log) Koc

Parameter	Method	Value	Value determination
Koc		430 - 810	Experimental value

Conclusion

Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Due to insufficient data no statement can be made whether the component(s) fulfil(s) the criteria of PBT and vPvB according to Annex XIII of Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

12.7. Other adverse effects

AMPACT/EXCLTAP Cartridges

Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997. The waste code must be assigned by the user, preferably in consultation with the (environmental) authorities concerned.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

European Union

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AMPACT/EXCLTAP Cartridges

Waste material code packaging (Directive 2008/98/EC).

15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1. UN number	UN number	0014
14.2. UN proper shipping name	Proper shipping name	cartridges for tools, blank
14.3. Transport hazard class(es)	Hazard identification number	
	Class	1
	Classification code	1.4S
14.4. Packing group	Packing group	
	Labels	1.4
14.5. Environmental hazards	Environmentally hazardous substance mark	yes
14.6. Special precautions for user	Special provisions	364
	Limited quantities	Combination packagings: not more than 5 kg per inner packaging for solids. A package shall not weigh more than 30 kg. (gross mass)

Rail (RID)

14.1. UN number	UN number	0014
14.2. UN proper shipping name	Proper shipping name	cartridges for tools, blank
14.3. Transport hazard class(es)	Hazard identification number	1.4S
	Class	1
	Classification code	1.4S
14.4. Packing group	Packing group	
	Labels	1.4
14.5. Environmental hazards	Environmentally hazardous substance mark	yes
14.6. Special precautions for user	Special provisions	364
	Limited quantities	Combination packagings: not more than 5 kg per inner packaging for solids. A package shall not weigh more than 30 kg. (gross mass)

Inland waterways (ADN)

14.1. UN number	UN number	0014
14.2. UN proper shipping name	Proper shipping name	cartridges for tools, blank
14.3. Transport hazard class(es)	Class	1
	Classification code	1.4S
14.4. Packing group	Packing group	
	Labels	1.4
14.5. Environmental hazards	Environmentally hazardous substance mark	yes
14.6. Special precautions for user	Special provisions	364
	Limited quantities	Combination packagings: not more than 5 kg per inner packaging for solids. A package shall not weigh more than 30 kg. (gross mass)

Sea (IMDG/IMSBC)

14.1. UN number	UN number	0014
14.2. UN proper shipping name	Proper shipping name	cartridges for tools, blank
14.3. Transport hazard class(es)	Class	1.4S
14.4. Packing group	Packing group	
	Labels	1.4S
14.5. Environmental hazards		

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Marine pollutant	P
Environmentally hazardous substance mark	yes
14.6. Special precautions for user	
Special provisions	364
Limited quantities	Combination packagings: not more than 5 kg per inner packaging for solids. A package shall not weigh more than 30 kg. (gross mass)
14.7. Maritime transport in bulk according to IMO instruments	
Annex II of MARPOL 73/78	Not applicable

Air (ICAO-TI/IATA-DGR)

14.1. UN number	
UN number	0014
14.2. UN proper shipping name	
Proper shipping name	cartridges for tools, blank
14.3. Transport hazard class(es)	
Class	1.4S
14.4. Packing group	
Packing group	
Labels	1.4S
14.5. Environmental hazards	
Environmentally hazardous substance mark	yes
14.6. Special precautions for user	
Special provisions	A802
Passenger and cargo transport	
Limited quantities: maximum net quantity per packaging	Forbidden

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
	Insufficient data

nitroglycerine

Product name	Skin resorption
Glycerol trinitrate	Skin

Directive 2012/18/EU (Seveso III)

Threshold values under normal circumstances

Substance or category	Low tier (tonnes)	Top tier (tonnes)	Group	For this substance or mixture the summation rule has to be applied for:
P1b EXPLOSIVES	50	200	None	Flammability
E2 Hazardous to the Aquatic Environment in Category Chronic 2	200	500	None	Eco-toxicity

European drinking water standards (98/83/EC and 2020/2184)

copper

Parameter	Parametric value	Note	Reference
Copper	2 mg/l		Listed in Annex I, Part B, of Directive (EU) 2020/2184 on the quality of water intended for human consumption.

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· nitroglycerine	Liquid 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: (a) 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; (b) 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; (c) hazard class 4.1; (d) hazard class 5.1.	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with H304, 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures,

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		<p>suppliers shall ensure, before the placing on the market, that the following requirements are met:</p> <p>a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life-threatening lung damage";</p> <p>b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: "Just a sip of grill lighter may lead to life threatening lung damage";</p> <p>c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.</p>
· copper	<p>Substances falling within one or more of the following points:</p> <p>(a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008:</p> <ul style="list-style-type: none"> — carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation — reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation — skin sensitiser category 1, 1A or 1B — skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 — serious eye damage category 1 or eye irritant category 2 <p>(b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council</p> <p>(c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex.</p> <p>The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.</p>	<p>Mixtures for tattooing purposes are subject to the restrictions of Regulation (EU) 2020/2081</p>
· zinc powder - zinc dust (stabilised)	<p>Substances falling within one or more of the following points:</p> <p>(a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008:</p> <ul style="list-style-type: none"> — carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation — reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation — skin sensitiser category 1, 1A or 1B — skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 — serious eye damage category 1 or eye irritant category 2 <p>(b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council</p> <p>(c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex.</p> <p>The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.</p>	<p>Mixtures for tattooing purposes are subject to the restrictions of Regulation (EU) 2020/2081</p>

National legislation Belgium
AMPACT/EXCLTAP Cartridges

No data available

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AMPACT/EXCLTAP Cartridges

nitroglycerine

Résorption peau	Nitroglycérine; D; La mention "D" signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air.
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National legislation The Netherlands

AMPACT/EXCLTAP Cartridges

Waterbezwaarlijkheid	A (2); Algemene Beoordelingsmethodiek (ABM)
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nitroglycerine

Huidopname (wettelijk)	Glyceroltrinitraat; H
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National legislation France

AMPACT/EXCLTAP Cartridges

No data available

nitroglycerine

Risque de pénétration percutanée	Trinitrate de glycérol; Risque de pénétration percutanée
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National legislation Germany

AMPACT/EXCLTAP Cartridges

WGK	2; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017
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copper

TA-Luft	5.2.2/III
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nitroglycerine

TA-Luft	5.2.5/I
TRGS900 - Risiko der Fruchtschädigung	Glycerintrinitrat; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden
Hautresorptive Stoffe	Glycerintrinitrat; H; Hautresorptiv

zinc powder - zinc dust (stabilised)

TA-Luft	5.2.1
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National legislation Austria

AMPACT/EXCLTAP Cartridges

No data available

nitroglycerine

besondere Gefahr der Hautresorption	Glycerintrinitrat; H
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National legislation United Kingdom

AMPACT/EXCLTAP Cartridges

No data available

nitroglycerine

Skin absorption	Glycerol trinitrate; Sk
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Other relevant data

AMPACT/EXCLTAP Cartridges

No data available

nitroglycerine

TLV - Skin absorption	Nitroglycerin; Skin; Danger of cutaneous absorption
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15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H- and EUH-statements referred to under section 3:

- H200 Unstable explosives.
- H204 Fire or projection hazard.
- H300 Fatal if swallowed.
- H301 Toxic if swallowed.
- H310 Fatal in contact with skin.
- H311 Toxic in contact with skin.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H373 May cause damage to organs (blood system) through prolonged or repeated exposure if inhaled.
- 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.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level

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EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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