SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2020/878)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : GOLD SPRAY

Product code : 089040-NFDT-EN.

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

Ideal for use on handicrafts (e.g. cones, cardboard, etc.), Christmas decorations and flower arrangements. Only use the product as directed on the aerosol.

1.3. Details of the supplier of the safety data sheet

Registered company name : Volcke Aerosol Belgium NV.

Address : Industrielaan 15. B-8520. Kuurne. Belgium.

Telephone : +32 (0) 56 35 17 23. Fax : /.

info.belgium@volcke-aerosol.com

https://www.volcke-aerosol.com

1.4. Emergency telephone number : +32 (0) 56 35 17 23.

Association/Organisation : https://www.volcke-aerosol.com.

Hours of operation : Monday - Thursday : 8:00-17:00; Friday : 8:00-13:00

Other emergency numbers

United Kingdom : National Poisons Information Service : +44 (0)844 892 0111. Ireland : Poisons Information Centre of Ireland : +353 1 809 2166. Malta : Emergency number : 112 ; Medicines & Poisons info Office : 2545 6508.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Aerosol, Category 3 (Aerosol 3, H229).

Hazardous to the aquatic environment - Acute hazard, Category 1 (Aquatic Acute 1, H400).

Hazardous to the aquatic environment - Chronic hazard, Category 2 (Aquatic Chronic 2, H411).

This mixture does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

The propellant gas is not taken into account when determining the health and environmental classification of the mixture.

2.2. Label elements

Mixture for aerosol application.

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :

GHS09

Signal Word :

WARNING

Additional labeling :

37% by mass of the contents are flammable.

Hazard statements :

H229	Pressurised container: May burst if heated.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements - General :

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

Precautionary statements - Prevention :

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251	Do not pierce or burn, even after use.
P273	Avoid release to the environment.

Precautionary statements - Response :

P391 Collect spillage.

Precautionary statements - Storage :

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

Precautionary statements - Disposal :

P501 Dispose of container to an approved waste disposal plant.

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European CHemicals Agency (ECHA) under article 57 of REACH: http://echa.europa.eu/fr/candidate-list-table

The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

The mixture does not contain substances> = 0.1% with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.

Intentional misuse of the preparation by concentrating and inhaling the vapours can be harmful or fatal.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	Classification (EC) 1272/2008	Note	%
EC: 918-167-1 REACH: 01-2119472146-39 HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS	GHS08, GHS02 Dgr Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Chronic 4, H413 EUH:066		10 <= x % < 25
CAS: 7440-50-8 EC: 231-159-6 REACH: 01-2119480154-42 COPPER POWDER	GHS07, GHS09 Wng Acute Tox. 4, H302 Eye Irrit. 2, H319 Aquatic Acute 1, H400 M Acute = 10 Aquatic Chronic 1, H410 M Chronic = 1	[1]	2.5 <= x % < 10
CAS: 106-97-8 EC: 203-448-7 REACH: 01-2119474691-32-XXXX BUTANE (< 0,1 % 1,3-BUTADIENE)	GHS02 Dgr Flam. Gas 1A, H220 Press. Gas, H280	C [1] [7]	1 <= x % < 2.5
CAS: 109-87-5 EC: 203-714-2 REACH: 01-2119664781-31 METHYLAL	GHS02 Dgr Flam. Liq. 2, H225	[1]	1 <= x % < 2.5
CAS: 74-98-6 EC: 200-827-9 REACH: 01-2119486944-21-XXXX PROPANE	GHS02 Dgr Flam. Gas 1A, H220 Press. Gas, H280	[1] [7]	1 <= x % < 2.5
CAS: 7440-66-6 EC: 231-175-3 REACH: 01-2119467174-37 ZINC POWDER (STABILIZED)	GHS09, GHS02 Dgr Flam. Sol. 1, H228 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		0.1 <= x % < 1
CAS: 68439-50-9 EC: 500-213-3 REACH: 01-2119487984-16 ALCOHOLS, C12-14, ETHOXYLATED	GHS05, GHS09 Dgr Skin Corr. 1B, H314 Aquatic Chronic 3, H412 Aquatic Acute 1, H400 M Acute = 1		0.1 <= x % < 1

Specific concentration limits:

Identification	Specific concentration limits	ATE
CAS: 109-87-5 EC: 203-714-2 REACH: 01-2119664781-31 METHYLAL		oral: ATE = 6453 mg/kg BW

Information on ingredients :

(Full text of H-phrases: see section 16)

[1] Substance for which maximum workplace exposure limits are available.

[7] Propellant gas

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. description of first aid measures

In the event of exposure by inhalation :

In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest.

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

In the event of splashes or contact with skin :

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

In the event of swallowing :

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.

Keep the person exposed at rest. Do not force vomiting.

Seek medical attention, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

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

See section 11.

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

If you feel unwell, seek medical advice (show the label if possible). If symptoms persist, always call a doctor.

SECTION 5 : FIREFIGHTING MEASURES

5.1. Extinguishing media

If the aerosols are exposed to a fire : keep containers cool by spraying with water from a protected position.

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- foam
- multipurpose ABC powder
- BC powder
- carbon dioxide (CO2)

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO2)
- nitrogen oxide (NO)
- nitrogen dioxide (NO2)

In a fire or if heated, a pressure increase will occur and the container may burst. Bursting aerosol containers may be propelled from a fire at high speed. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

5.3. Advice for firefighters

If possible, stop the product stream. Spray from a protected position till the containers are cool. If possible, take the aerosols outside. Keep public at a distance.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Ensure that there is adequate ventilation, especially in confined areas.

Fire prevention :

Handle in well-ventilated areas.

Do not pierce or burn, even after use.

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Do not breathe in aerosols.

Packages which have been opened must be reclosed carefully and stored in an upright position.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Keep out of reach of children.

The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C.

Keep away from heat and sources of ignition. Storage in a dry, frost-free and well ventilated place.

Store upright.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- UK / WEL (Workplace exposure limits, EH40/2005, Fourth Edition 2020) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7440-50-8	0.2 mg/m3	-	-	-	-

106-97-8	600 ppm 1450 mg/m3	750 ppm 1810 mg/m3		Carc	
109-87-5	1000 ppm 3160 mg/m3	1250 ppm 3950 mg/m3			

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : AGW (DE) : 300 mg/m³ (8 h)

- Ireland (Code of practice for the Chemical Agents Regulations, 2021) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7440-50-8	0.2 mg/m3	-	-	-	-
106-97-8		1000 ppm			
109-87-5	1000 ppm 3100 mg/m3				
74-98-6				Asphx.	

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

ZINC POWDER (STABILIZED) (CAS: 7440-66-6)

Final use: **Workers.**
Exposure method: Dermal contact.
Potential health effects: Long term systemic effects.
DNEL : 83 mg/kg body weight/day

Exposure method: Inhalation.
Potential health effects: Long term systemic effects.
DNEL : 5 mg of substance/m3

Final use: **Consumers.**
Exposure method: Ingestion.
Potential health effects: Long term systemic effects.
DNEL : 0.83 mg/kg body weight/day

Exposure method: Dermal contact.
Potential health effects: Long term systemic effects.
DNEL : 83 mg/kg body weight/day

Exposure method: Inhalation.
Potential health effects: Long term systemic effects.
DNEL : 2.5 mg of substance/m3

METHYLAL (CAS: 109-87-5)

Final use: **Workers.**
Exposure method: Dermal contact.
Potential health effects: Long term systemic effects.
DNEL : 17.9 mg/kg body weight/day

Exposure method: Inhalation.
Potential health effects: Long term systemic effects.
DNEL : 126.6 mg of substance/m3

Final use: **Consumers.**
Exposure method: Ingestion.
Potential health effects: Long term systemic effects.
DNEL : 18.1 mg/kg body weight/day

Exposure method: Dermal contact.
Potential health effects: Long term systemic effects.
DNEL : 18.1 mg/kg body weight/day

Exposure method: Inhalation.
Potential health effects: Long term systemic effects.
DNEL : 31.5 mg of substance/m3

COPPER POWDER (CAS: 7440-50-8)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	137 mg/kg body weight/day
Exposure method:	Dermal contact.
Potential health effects:	Short term systemic effects.
DNEL :	273 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	20 mg of substance/m3
Final use:	**Consumers.**
Exposure method:	Dermal contact.
Potential health effects:	Short term systemic effects.
DNEL :	273 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	20 mg of substance/m3

Predicted no effect concentration (PNEC):

ZINC POWDER (STABILIZED) (CAS: 7440-66-6)

Environmental compartment:	Soil.
PNEC :	35.6 mg/kg
Environmental compartment:	Fresh water.
PNEC :	20.6 µg/l
Environmental compartment:	Sea water.
PNEC :	61 µg/l
Environmental compartment:	Fresh water sediment.
PNEC :	117.8 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	56.5 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	52 µg/l

METHYLAL (CAS: 109-87-5)

Environmental compartment:	Soil.
PNEC :	4.6538 mg/kg
Environmental compartment:	Fresh water.
PNEC :	14.577 mg/l
Environmental compartment:	Sea water.
PNEC :	1.477 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	13.135 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	1.3135 mg/kg
Environmental compartment:	Waste water treatment plant.

PNEC :	10 g/l

COPPER POWDER (CAS: 7440-50-8)

Environmental compartment:	Soil.
PNEC :	65.5 mg/kg
Environmental compartment:	Fresh water.
PNEC :	78 µg/l
Environmental compartment:	Sea water.
PNEC :	52 µg/l
Environmental compartment:	Fresh water sediment.
PNEC :	87 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	676 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	230 µg/l

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles in accordance with standard EN166.

Do not spray in the direction of the eyes.

- Hand protection

Type of gloves recommended :

- Natural latex
- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- PVC (polyvinyl chloride)
- Butyl Rubber (Isobutylene-isoprene copolymer)

Not necessary at efficient use. Wash your hands after contact with skin.

- Body protection

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

Not necessary at efficient use. Wash skin that has been in contact with the product, with water and soap.

- Respiratory protection

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :

- A1 (Brown)

Do not breathe spray. Use only in well-ventilated areas.

Exposure controls linked to environmental protection

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state

Physical state :	Fluid liquid. Spray.

Colour

Gold

Odour

Odour threshold :	Not stated.
Odour :	Specific

Freezing point

Freezing point / Freezing range :	Not stated.

Boiling point or initial boiling point and boiling range

Boiling point/boiling range :	Not relevant.

Flammability

Flammability (solid, gas) :	Not stated.
Flammability :	Not applicable

Lower and upper explosion limit

Explosive properties, lower explosivity limit (%) :	Not stated.
Explosive properties, upper explosivity limit (%) :	Not stated.

Flash point

Flash point interval :	Not relevant.

Auto-ignition temperature

Self-ignition temperature :	Not relevant.

Decomposition temperature

Decomposition point/decomposition range :	Not relevant.

pH

pH (aqueous solution) :	Not stated.
pH :	7.00 . Neutral.

Kinematic viscosity

Viscosity :	Not stated.

Solubility

Water solubility :	Soluble.
Fat solubility :	Not stated.

Partition coefficient n-octanol/water (log value)

Partition coefficient: n-octanol/water :	Not stated.

Vapour pressure

Vapour pressure (50°C) :	Not relevant.

Density and/or relative density

Density :	0.952

Relative vapour density

Vapour density :	Not stated.

Particle characteristics

The mixture does not contain nanoforms.

9.2. Other information

VOC (g/l) :	304.11
Pressure at 20°C :	± 6.0 bar
Pressure at 50°C :	< 12 bar
Water content :	Water-based formulation

9.2.1. Information with regard to physical hazard classes

No data available.

Aerosols

Chemical combustion heat :	< 20 kJ/g.
Inflammation time :	> 300 s/m3.
Ignition distance :	No ignition

9.2.2. Other safety characteristics

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Avoid :

- frost
- heat
- flames and hot surfaces

Protect from sunlight and do not expose to temperatures exceeding 50°C. Keep away from heat and sources of ignition. Storage in a dry, frost-free and well ventilated place.

10.5. Incompatible materials

No materials known by which a dangerous reaction can occur.

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO2)
- nitrogen oxide (NO)
- nitrogen dioxide (NO2)

The product is stable. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 : TOXICOLOGICAL INFORMATION

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

Splashes in the eyes may cause irritation and reversible damage

11.1.1. Substances

Acute toxicity :

PROPANE (CAS: 74-98-6)

Inhalation route (Dusts/mist) :	LC50 > 10 mg/l

BUTANE (< 0,1 % 1,3-BUTADIENE) (CAS: 106-97-8)

Inhalation route (Vapours) :	LC50 > 10 mg/l

ALCOHOLS, C12-14, ETHOXYLATED (CAS: 68439-50-9)

Oral route :	LD50 > 2000 mg/kg bodyweight/day Species : Rat

ZINC POWDER (STABILIZED) (CAS: 7440-66-6)

Oral route :	LD50 > 2000 mg/kg bodyweight/day Species : Rat

METHYLAL (CAS: 109-87-5)

Oral route :	LD50 = 6453 mg/kg bodyweight/day Species : Rat OECD Guideline 423 (Acute Oral toxicityAcute Toxic Class Method)
Dermal route :	LD50 > 5000 mg/kg bodyweight/day

Species : Rabbit
OECD Guideline 402 (Acute Dermal Toxicity)

COPPER POWDER (CAS: 7440-50-8)
Oral route : LD50 > 300 mg/kg bodyweight/day
Species : Rat

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS
Oral route : LD50 > 5000 mg/kg bodyweight/day
Species : Rat
OECD Guideline 401 (Acute Oral Toxicity)

Dermal route : LD50 > 5000 mg/kg bodyweight/day
Species : Rabbit
OECD Guideline 402 (Acute Dermal Toxicity)

Inhalation route (Dusts/mist) : LC50 > 5.6 mg/l
Species : Rat
OECD Guideline 403 (Acute Inhalation Toxicity)
Duration of exposure : 4 h

Skin corrosion/skin irritation :

Methylal : Not irritating. Repeated or prolonged skin contact may cause dermatitis and defatting.
Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : Not classified as skin corrosive/irritant but marked with EUH066.
Copper powder : Not classified.
Zinc powder - zinc dust (stabilised) : Not classified.
Alcohols, C12-14, ethoxylated : Corrosive to skin.
Butane/Isobutane/Propane : Based on available data, the classification criteria are not met.

METHYLAL (CAS: 109-87-5)
Species : Rabbit
OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Irritation : Average score = 4.2
Effect observed : Primary dermal irritation index (PDII)
Species : Rabbit
Duration of exposure : 72 h
OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS
OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious damage to eyes/eye irritation :

Methylal : Not irritating.
Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : Not classified as damaging or irritant to eyes.
Alcohols, C12-14, ethoxylated : Causes serious eye damage.
Copper powder : Not classified.
Zinc powder - zinc dust (stabilised) : Not classified.
Butane/Isobutane/Propane : Based on available data, the classification criteria are not met.

METHYLAL (CAS: 109-87-5)
OECD Guideline 405 (Acute Eye Irritation / Corrosion)

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS
Corneal haze : Average score = 0
Species : Rabbit
Duration of exposure : 72 h
OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Iritis : Average score = 0
Species : Rabbit

Duration of exposure : 72 h
OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Conjunctival redness : Average score = 0
Species : Rabbit
Duration of exposure : 72 h
OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Conjunctival oedema : Average score = 0
Species : Rabbit
Duration of exposure : 72 h
OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitisation :

Copper powder : Not classified.

Zinc powder - zinc dust (stabilised) : Not classified.

Alcohols, C12-14, ethoxylated : Not sensitizing.

Butane/Isobutane/Propane : Based on available data, the classification criteria are not met.

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS

Guinea Pig Maximisation Test (GMPT) : Non-sensitiser.
Species : Guinea pig
OECD Guideline 406 (Skin Sensitisation)

METHYLAL (CAS: 109-87-5)

Local lymph node stimulation test : Non-Sensitiser.
OECD Guideline 406 (Skin Sensitisation)

Guinea Pig Maximisation Test (GMPT) : Non-sensitiser.
Species : Guinea pig
OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity :

ALCOHOLS, C12-14, ETHOXYLATED (CAS: 68439-50-9)
No mutagenic effect.

PROPANE (CAS: 74-98-6)
No mutagenic effect.

METHYLAL (CAS: 109-87-5)
No mutagenic effect.

Mutagenesis (in vivo) : Negative.
Species : Mouse
OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Mutagenesis (in vitro) : Negative.
Species : Mammalian Cell Line
OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)

BUTANE (< 0,1 % 1,3-BUTADIENE) (CAS: 106-97-8)
No mutagenic effect.

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS
No mutagenic effect.

Mutagenesis (in vivo) : Negative.
Species : Rat
OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)

Mutagenesis (in vitro) : Negative.

Species : Bacteria
OECD Guideline 471 (Bacterial Reverse Mutation Assay)

Species : S. typhimurium TA102

Carcinogenicity :

Alcohols, C12-14, ethoxylated : No known significant effects or critical hazards.

PROPANE (CAS: 74-98-6)
Carcinogenicity Test : Negative.
No carcinogenic effect.

METHYLAL (CAS: 109-87-5)
Carcinogenicity Test : Negative.
No carcinogenic effect.

BUTANE (< 0,1 % 1,3-BUTADIENE) (CAS: 106-97-8)
Carcinogenicity Test : Negative.
No carcinogenic effect.

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS
Carcinogenicity Test : Negative.
No carcinogenic effect.
OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicant :

Alcohols, C12-14, ethoxylated : No known significant effects or critical hazards.

PROPANE (CAS: 74-98-6)
No toxic effect for reproduction

METHYLAL (CAS: 109-87-5)
No toxic effect for reproduction
OECD Guideline 414 (Prenatal Developmental Toxicity Study)

BUTANE (< 0,1 % 1,3-BUTADIENE) (CAS: 106-97-8)
No toxic effect for reproduction

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS
No toxic effect for reproduction
Study on fertility : Species : Rat
OECD Guideline 414 (Prenatal Developmental Toxicity Study)
Study on development : Species : Rat
OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)

Specific target organ systemic toxicity - single exposure :

Methylal : To human : Not classified for organ toxicity. For animals : No effects known.

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : Not classified as toxic to a target organ.

Copper powder : Not classified.

Zinc powder - zinc dust (stabilised) : Not classified.

Butane/Isobutane/Propane : Based on available data, the classification criteria are not met.

Specific target organ systemic toxicity - repeated exposure :

Methylal : To human : Not classified for organ toxicity. For animals : No effects known.

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : Not classified as toxic to a target organ.

Copper powder : Not classified.

Zinc powder - zinc dust (stabilised) : Not classified.

Butane/Isobutane/Propane : Based on available data, the classification criteria are not met.

METHYLAL (CAS: 109-87-5)
Inhalation route : C = 6.3 mg/litre/6h/day
Species : Rat
Duration of exposure : 90 days

OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS
OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)

Aspiration hazard :

Methylal : Not considered hazardous.

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : In case of swallowing or vomiting product can enter airways and can cause chemical pneumonitis and pulmonary oedema.

Copper powder : Not classified.

Zinc powder - zinc dust (stabilised) : Not classified.

Butane/Isobutane/Propane : Not applicable to gases and gas mixtures.

11.1.2. Mixture

No toxicological data available for the mixture.

11.2. Information on other hazards

SECTION 12 : ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

12.1. Toxicity

12.1.1. Substances

METHYLAL (CAS: 109-87-5)

Fish toxicity :	LC50 = 6990 mg/l Species : Pimephales promelas Duration of exposure : 96 h OECD Guideline 203 (Fish, Acute Toxicity Test)
	NOEC = 450.281 mg/l Duration of exposure : 28 days
Crustacean toxicity :	EC50 > 1200 mg/l Species : Daphnia magna Duration of exposure : 48 h OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
	NOEC = 150.5 mg/l Species : Daphnia magna Duration of exposure : 28 days
Algae toxicity :	ECr50 = 9120 mg/l Species : Pseudokirchnerella subcapitata Duration of exposure : 72 h

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS

Fish toxicity :	LC50 > 1000 mg/l Species : Oncorhynchus mykiss Duration of exposure : 96 h OECD Guideline 203 (Fish, Acute Toxicity Test)
	NOEC = 0.209 mg/l Species : Oncorhynchus mykiss Duration of exposure : 28 days
Crustacean toxicity :	EC50 > 1000 mg/l Species : Daphnia magna Duration of exposure : 48 h

	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
	NOEC > 1 mg/l Species : Daphnia magna Duration of exposure : 21 days OECD Guideline 211 (Daphnia magna Reproduction Test)
Algae toxicity :	ECr50 > 1000 mg/l Species : Pseudokirchnerella subcapitata Duration of exposure : 72 h OECD Guideline 201 (Alga, Growth Inhibition Test)

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : Inherently biologically degradable. Transformation due to hydrolysis and due to photolysis is not expected to be significant. Expected to degrade rapidly in air.

12.2.1. Substances

ALCOHOLS, C12-14, ETHOXYLATED (CAS: 68439-50-9)

Biodegradability :	Rapidly degradable.

PROPANE (CAS: 74-98-6)

Biodegradability :	Rapidly degradable.

METHYLAL (CAS: 109-87-5)

Biodegradability :	Non-rapidly degradable.

BUTANE (< 0,1 % 1,3-BUTADIENE) (CAS: 106-97-8)

Biodegradability :	Rapidly degradable.

COPPER POWDER (CAS: 7440-50-8)

Biodegradability :	no degradability data is available, the substance is considered as not degrading quickly.

HYDROCARBONS, C11-C12, ISOALKANES, < 2 % AROMATICS

Biodegradability :	Non-rapidly degradable. DBO5/DCO = 0.31

12.3. Bioaccumulative potential

Butane/Isobutane/Propane : Not expected to be dangerous for the aquatic environment.

Methylal : No data available.

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : Not determined.

Alcohols, C12-14, ethoxylated : No data available.

Copper powder : No data available.

Zinc powder - zinc dust (stabilised) : No data available.

12.3.1. Substances

METHYLAL (CAS: 109-87-5)

Octanol/water partition coefficient :	log Koe = 0

12.4. Mobility in soil

Butane/Isobutane/Propane : If released into the environment, the product will rapidly disperse into the atmosphere where it will undergo photochemical degradation.

Methylal : No data available.

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : Leaking material can soak in the sediment layer and cause soil and groundwater contamination.

Alcohols, C12-14, ethoxylated : No data available.

Copper powder : No data available.

Zinc powder - zinc dust (stabilised) : No data available.

12.5. Results of PBT and vPvB assessment

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : PBT/vPvB : No.

Alcohols, C12-14, ethoxylated : PBT/vPvB : No.

Methylal : PBT/vPvB : No.

Copper powder : PBT/vPvB : No.

Zinc powder - zinc dust (stabilised) : PBT/vPvB : No.

Butane/Isobutane/Propane : Not considered to be a PBT or a vPvB.

12.6. Endocrine disrupting properties

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Butane/Isobutane/Propane : Not applicable.

Methylal : No additional information available.

12.7. Other adverse effects

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics : Flowing product can lead to an accumulation of a film on the water surface that reduces the oxygen exchange and can lead to the death of organisms.

Butane/Isobutane/Propane : Not applicable.

Methylal : Avoid release to the environment.

Alcohols, C12-14, ethoxylated : No known significant effects or critical hazards.

Copper powder : No data available.

Zinc powder - zinc dust (stabilised) : No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Recycle or dispose of waste in complaince with current legislation, namely the Ordinance on the Avoidance and Disposal of Waste (Waste Ordinance, VVEA, SR 814.600), the Ordinance on Waste from June 22, 2005 (VeVA, SR 814, 610) and DETEC Ordinance on Waste Lists.

Disposal of the product (the unused product, residual quantities, the cured product, emptied but uncleaned packaging) : preferably by an approved waste collector or a specialist disposal company. Suitable containers and methods of waste treatment should be used.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

Codes of wastes (Decision 2014/955/EC, Directive 2008/98/EEC on hazardous waste) :

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

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2023 - IMDG 2022 [41-22] - ICAO/IATA 2023 [64]).

14.1. UN number or ID number

1950

14.2. UN proper shipping name

UN1950=AEROSOLS, asphyxiant

14.3. Transport hazard class(es)

- Classification :

2.2

ADR/RID Label : Limited Quantity : 2.2 is not applicable.

14.4. Packing group

-

14.5. Environmental hazards

- Environmentally hazardous material :

The symbol above is not applicable for "Limited Quantity".

14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	2	5A	-	2.2	-	1 L	190 327 344 625	E0	3	E
IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ	Stowage Handling	Segregation	
	2	See SP63	-	See SP277	F-D. S-U	63 190 277 327 344 381 959	E0	- SW1 SW22	SG69	
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	2.2	-	-	203	75 kg	203	150 kg	A98 A145 A167 A802	E0	
	2.2	-	-	Y203	30 kg G	-	-	A98 A145 A167 A802	E0	

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

Marine pollutant (IMDG 3.1.2.9):(copper powder)

14.7. Maritime transport in bulk according to IMO instruments

No data available.

SECTION 15: Regulatory information

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

Classification and labelling information included in section 2:

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2022/692 (ATP 18)

Container information:

No data available.

Restrictions applied under Title VIII of Regulation (EC) No. 1907/2006 (REACH):

The mixture does not contain any substance restricted under Annex XVII of Regulation (EC) No. 1907/2006 (REACH): https://echa.europa.eu/substances-restricted-under-reach.

Explosives precursors :

The mixture does not contain any substance subject to Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

Particular provisions :

Labelling following EU Regulation No. 517/2014 : Contains fluorinated greenhouse gases : HFC-152a.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out for the following products or for the substances in these products :

Methylal

Hydrocarbons, C11-C12, isoalkanes, < 2 % aromatics

Alcohols, C12-14, ethoxylated

Copper powder

Zinc powder - zinc dust (stabilised)

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.

Abbreviations and acronyms :

LD50 : The dose of a test substance resulting in 50% lethality in a given time period.
LC50 : The concentration of a test substance resulting in 50% lethality in a given period.
EC50 : The effective concentration of substance that causes 50% of the maximum response.
ECr50 : The effective concentration of substance that causes 50% reduction in growth rate.
NOEC : The concentration with no observed effect.
REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.
ATE : Acute Toxicity Estimate
BW : Body Weight
DNEL : Derived No-Effect Level
PNEC : Predicted No-Effect Concentration
STEL : Short-term exposure limit
TWA : Time Weighted Averages
TLV : Threshold Limit Value (exposure)
AEV : Average Exposure Value.
ADR : European agreement concerning the international carriage of dangerous goods by Road.
IMDG : International Maritime Dangerous Goods.
IATA : International Air Transport Association.
ICAO : International Civil Aviation Organisation
RID : Regulations concerning the International carriage of Dangerous goods by rail.
WGK : Wassergefahrdungsklasse (Water Hazard Class).
GHS09 : Environment
PBT: Persistent, bioaccumulable and toxic.
vPvB : Very persistent, very bioaccumulable.
SVHC : Substances of very high concern.

Difference Report

Revision: N°9 (08/11/2023) / GHS n°6 / HCS n°) / Version: N°1 (08/11/2023)

~~Revision: N°8 (22/03/2023) / GHS n°5 / HCS n°) / Version: N°1 (22/03/2023)~~

SECTION 2 : HAZARDS IDENTIFICATION

In compliance with EC regulation No. 1272/2008 and its amendments.

~~Hazardous to the aquatic environment - Chronic hazard, Category 3 (Aquatic Chronic 3, H412).~~

Hazardous to the aquatic environment - Chronic hazard, Category 2 (Aquatic Chronic 2, H411).

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Composition :

~~CAS: 7440-50-8 EC: 231-159-6 REACH: 01-2119480154-42 COPPER POWDER~~	~~GHS09 Wng Aquatic Chronic 2, H411 Aquatic Acute 1, H400 M Acute = 10~~	~~T [1]~~	~~2.5 <= x % < 10~~
~~CAS: 107-41-5 EC: 203-489-0 REACH: 01-2119539582-35-XXXX 2-METHYLPENTANE-2,4-DIOL~~	~~GHS07, GHS08 Wng Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d~~	~~[1] [2]~~	~~0.1 <= x % < 1~~
~~CAS: 7440-66-6 EC: 231-175-3 REACH: 01-2119467174-37 ZINC POWDER - ZINC DUST (STABILISED)~~	~~GHS09 Wng Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1~~		~~0.1 <= x % < 1~~
~~CAS: 107-98-2 EC: 203-539-1 REACH: 01-2119457435-35 MONOPROPYLENE GLYCOL METHYL ETHER~~	~~GHS07, GHS02 Wng Flam. Liq. 3, H226 STOT SE 3, H336~~	~~[1]~~	~~0.1 <= x % < 1~~
~~INDEX: 601-022-00-9 CAS: 1330-20-7 EC: 215-535-7 XYLENE~~	~~GHS02, GHS07 Wng Flam. Liq. 3, H226 Acute Tox. 4, H332 Acute Tox. 4, H312 Skin Irrit. 2, H315~~	~~C [1]~~	~~0 > x % < 0.03~~
CAS: 7440-50-8 EC: 231-159-6 REACH: 01-2119480154-42 COPPER POWDER	GHS07, GHS09 Wng Acute Tox. 4, H302 Eye Irrit. 2, H319 Aquatic Acute 1, H400 M Acute = 10 Aquatic Chronic 1, H410 M Chronic = 1	[1]	2.5 <= x % < 10
CAS: 7440-66-6 EC: 231-175-3 REACH: 01-2119467174-37 ZINC POWDER (STABILIZED)	GHS09, GHS02 Dgr Flam. Sol. 1, H228 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		0.1 <= x % < 1

Specific concentration limits:

~~CAS: 107-98-2 EC: 203-539-1 REACH: 01-2119457435-35 MONOPROPYLENE GLYCOL METHYL ETHER~~		~~oral: ATE = 4016 mg/kg BW~~

Information on ingredients :

~~[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.~~

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits :

~~- European Union (2022/431, 2019/1831, 2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :~~

~~CAS~~	~~VME-mg/m3 :~~	~~VME-ppm :~~	~~VLE-mg/m3 :~~	~~VLE-ppm :~~	~~Notes :~~
~~107-98-2~~	~~375~~	~~100~~	~~568~~	~~150~~	~~Peau~~
~~1330-20-7~~	~~221~~	~~50~~	~~442~~	~~100~~	~~Peau~~
~~107-41-5~~	~~25 ppm 123 mg/m3~~	~~25 ppm 123 mg/m3~~			

107-98-2	100 ppm 375 mg/m3	150 ppm 560 mg/m3	Sk
1330-20-7	50 ppm 220 mg/m3	100 ppm 441 mg/m3	Sk. BMGV
107-41-5		25 ppm 125 mg/m3	
107-98-2	100 ppm 375 mg/m3	150 ppm 568 mg/m3	
1330-20-7	50 ppm 221 mg/m3	100 ppm 442 mg/m3	

- Malta (L.N. 353/2007) :

107-98-2	100 ppm 375 mg/m3	150 ppm 568 mg/m3	Skin
1330-20-7	50 ppm 221 mg/m3	100 ppm 442 mg/m3	Skin

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)

Final use: Workers.

DNEL : 50.6 mg/kg body weight/day

Potential health effects: Short term local effects.
DNEL : 553.5 mg of substance/m3

DNEL : 369 mg of substance/m3

Final use: Consumers.

DNEL : 3.3 mg/kg body weight/day

DNEL : 43.9 mg of substance/m3

2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)

Final use: Workers.

DNEL : 63 mg/kg body weight/day

DNEL : 44.43 mg of substance/m3

Potential health effects: Long term local effects.
DNEL : 49 mg of substance/m3

Potential health effects: Short term local effects.
DNEL : 98 mg of substance/m3

Final use: Consumers.

DNEL : 2.25 mg/kg body weight/day

DNEL : 22.5 mg/kg body weight/day

DNEL : 7.83 mg of substance/m3

Potential health effects: Long term local effects.
DNEL : 25 mg of substance/m3

Potential health effects: Short term local effects.
DNEL : 49 mg of substance/m3

Final use: Workers.

DNEL : 1240 mg of substance/m3

Potential health effects: Long term local effects.
DNEL : 1 mg of substance/m3

~~Potential health effects: Short term local effects.~~
~~DNEL : 1 mg of substance/m3~~

Final use: Consumers.
~~DNEL : 0.041 mg/kg body weight/day~~

~~DNEL : 1240 mg of substance/m3~~

~~Potential health effects: Short term local effects.~~
~~DNEL : 1 mg of substance/m3~~

~~Potential health effects: Short term local effects.~~
~~DNEL : 1 mg of substance/m3~~

ZINC POWDER (STABILIZED) (CAS: 7440-66-6)
DNEL : 83 mg/kg body weight/day

DNEL : 5 mg of substance/m3

DNEL : 0.83 mg/kg body weight/day

DNEL : 83 mg/kg body weight/day

DNEL : 2.5 mg of substance/m3

DNEL : 20 mg of substance/m3

DNEL : 20 mg of substance/m3

Predicted no effect concentration (PNEC):
~~MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)~~
~~PNEC : 4.59 mg/kg~~

~~PNEC : 10 mg/l~~

~~PNEC : 1 mg/l~~

~~Environmental compartment: Intermittent waste water.~~
~~PNEC : 100 mg/l~~

~~PNEC : 52.3 mg/kg~~

~~PNEC : 5.2 mg/kg~~

~~PNEC : 100 mg/l~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~
~~PNEC : 0.066 mg/kg~~

~~PNEC : 0.429 mg/l~~

~~PNEC : 0.0429 mg/l~~

~~Environmental compartment: Intermittent waste water.~~
~~PNEC : 4.29 mg/l~~

~~PNEC : 1.59 mg/kg~~

~~PNEC : 0.159 mg/kg~~

~~PNEC : 20 mg/l~~

~~PNEC :~~ ~~7.8 µg/l~~

~~PNEC :~~ ~~5.2 µg/l~~

Final use: Consumers.

ZINC POWDER (STABILIZED) (CAS: 7440-66-6)

PNEC :	35.6 mg/kg
PNEC :	20.6 µg/l
PNEC :	61 µg/l
PNEC :	117.8 mg/kg
PNEC :	56.5 mg/kg
PNEC :	52 µg/l
PNEC :	78 µg/l
PNEC :	52 µg/l

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.2. Other information

~~VOC (g/l) :~~ ~~311.72~~

VOC (g/l) : 304.11

Particle characteristics

The mixture does not contain nanoforms.

SECTION 11 : TOXICOLOGICAL INFORMATION

Acute toxicity :

~~MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)~~

~~Oral route :~~	~~LD50 = 4016 mg/kg bodyweight/day~~
~~Dermal route :~~	~~LD50 > 2000 mg/kg bodyweight/day~~
~~Inhalation route (Vapours) :~~	~~LC50 > 25.8 mg/l~~

~~ZINC POWDER - ZINC DUST (STABILISED) (CAS: 7440-66-6)~~

~~Inhalation route (Dusts/mist) :~~	~~LC50 > 5.41 mg/l~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

~~OECD Guideline 420 (Acute Oral ToxicityFixed Dose Method)~~

~~Dermal route :~~	~~LD50 >= 2000 mg/kg bodyweight/day~~
~~Inhalation route (Vapours) :~~	~~LC50 > 55 mg/l~~
~~Oral route :~~	~~LD50 < 500 mg/kg bodyweight/day~~
~~Dermal route :~~	~~LD50 > 2000 mg/kg bodyweight/day~~
~~Inhalation route (Dusts/mist) :~~	~~LC50 >= 5.11 mg/l~~

Skin corrosion/skin irritation :

~~2-Methylpentane-2,4-diol : Irritating to skin. Product is being absorbed through the skin.~~

~~Monopropylene glycol methyl ether : Repeated or prolonged skin contact may cause dermatitis and defatting.~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

~~Corrosivity :~~	~~No observed effect.~~

Serious damage to eyes/eye irritation :

~~2-Methylpentane-2,4-diol : Irritating to eyes.~~

~~Monopropylene glycol methyl ether : May be irritating to eyes.~~

ZINC POWDER (STABILIZED) (CAS: 7440-66-6)

Oral route :	LD50 > 300 mg/kg bodyweight/day

Respiratory or skin sensitisation :

~~MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)~~

~~Species : Guinea pig~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

Germ cell mutagenicity :

~~MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)~~

~~ZINC POWDER - ZINC DUST (STABILISED) (CAS: 7440-66-6)~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

~~Ames test (in vitro) :~~ ~~Negative.~~
~~With or without metabolic activation.~~
~~Species : S. typhimurium TA1535~~

Carcinogenicity :

~~MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)~~

~~ZINC POWDER - ZINC DUST (STABILISED) (CAS: 7440-66-6)~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

Reproductive toxicant :

~~MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)~~

~~ZINC POWDER - ZINC DUST (STABILISED) (CAS: 7440-66-6)~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

~~Suspected of damaging the unborn child.~~

Specific target organ systemic toxicity - single exposure :

~~Monopropylene glycol methyl ether : To human : Respiratory tract irritation.~~

~~2-Methylpentane-2,4-diol : To human : Not classified for organ toxicity. For animals : No effects known.~~

Specific target organ systemic toxicity - repeated exposure :

~~Monopropylene glycol methyl ether : To human : Not classified for organ toxicity. By male rats : Target organ : Kidneys.~~

~~2-Methylpentane-2,4-diol : To human : Not classified for organ toxicity. For animals : No effects known.~~

~~ZINC POWDER - ZINC DUST (STABILISED) (CAS: 7440-66-6)~~

~~Oral route :~~ ~~C = 31.52 mg/kg bodyweight/day~~
~~Duration of exposure : 90 days~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

~~Oral route :~~ ~~C = 450 mg/kg bodyweight/day~~
~~Oral route :~~ ~~C = 16.7 mg/kg bodyweight/day~~
~~Duration of exposure : 90 days~~

Aspiration hazard :

~~Monopropylene glycol methyl ether : Not considered hazardous.~~

~~2-Methylpentane-2,4-diol : Not considered hazardous.~~

SECTION 12 : ECOLOGICAL INFORMATION

12.1.1. Substances

~~MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)~~

~~Fish toxicity :~~ ~~LC50 >= 1000 mg/l~~
~~Crustacean toxicity :~~ ~~EC50 > 21100 mg/l~~
~~Duration of exposure : 48 h~~

~~Algae toxicity :~~ ~~EC50 - mg/l~~
~~Duration of exposure : 7 days~~

~~ZINC POWDER - ZINC DUST (STABILISED) (CAS: 7440-66-6)~~

~~Fish toxicity :~~ ~~LC50 < 0.269 mg/l~~
~~Factor M = 1~~
~~Duration of exposure : 96 h~~

~~NOEC = 0.169 mg/l~~

	~~Species : Others~~
~~Crustacean toxicity :~~	~~EC50 < 0.908 mg/l~~ ~~Factor M = 1~~ ~~Duration of exposure : 48 h~~
	~~NOEC = 0.100 mg/l~~ ~~Factor M = 1~~ ~~Duration of exposure : 21 days~~
~~Algae toxicity :~~	~~ECr50 < 0.125 mg/l~~ ~~Factor M = 1~~ ~~EC50 - mg/l~~ ~~Factor M = 1~~ ~~NOEC = 0.024 mg/l~~ ~~Factor M = 1~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

~~Fish toxicity :~~	~~LC50 = 8510 mg/l~~ ~~Species : Gambusia affinis~~
~~Crustacean toxicity :~~	~~EC50 = 5410 mg/l~~
~~Algae toxicity :~~	~~ECr50 > 429 mg/l~~ ~~NOEC = 429 mg/l~~
~~Fish toxicity :~~	~~LC50 < 0.210 mg/l~~ ~~Factor M = 1~~ ~~Duration of exposure : 96 h~~
	~~NOEC = 0.0114 mg/l~~
~~Crustacean toxicity :~~	~~EC50 = 0.03 mg/l~~ ~~Factor M = 10~~ ~~Duration of exposure : 48 h~~
~~Algae toxicity :~~	~~ECr50 < 0.054 mg/l~~ ~~Factor M = 10~~

12.2.1. Substances

~~MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)~~

~~Biodegradability :~~	~~Rapidly degradable.~~ ~~DBO5/DCO = 0.96~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

~~Biodegradability :~~	~~Rapidly degradable.~~ ~~DBO5/DCO = 0.81~~

12.3. Bioaccumulative potential

~~Monopropylene glycol methyl ether : No bioaccumulation.~~

~~2-Methylpentane-2,4-diol : Bioaccumulation not expected.~~

Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

12.3.1. Substances

~~MONOPROPYLENE GLYCOL METHYL ETHER (CAS: 107-98-2)~~

~~Octanol/water partition coefficient :~~	~~log Koe = 0.37~~
~~Bioaccumulation :~~	~~BCF < 100~~

~~2-METHYLPENTANE-2,4-DIOL (CAS: 107-41-5)~~

~~Octanol/water partition coefficient :~~	~~log Koe = 0.58~~

12.4. Mobility in soil

~~Monopropylene glycol methyl ether : Product completely soluble in water.~~

~~2-Methylpentane-2,4-diol : Product completely soluble in water.~~

12.5. Results of PBT and vPvB assessment

~~Monopropylene glycol methyl ether : PBT/vPvB : No.~~

~~2-Methylpentane-2,4-diol : PBT/vPvB : No.~~

12.6. Endocrine disrupting properties

~~2-Methylpentane-2,4-diol : No information available about endocrine disrupting properties for the environment.~~

~~Monopropylene glycol methyl ether : No information available about endocrine disrupting properties for the environment.~~

12.7. Other adverse effects

~~2-Methylpentane-2,4-diol : Do not flush into surface water or sanitary sewer system. Avoid penetrating into the soil.~~

~~Monopropylene glycol methyl ether : Do not flush into surface water or sanitary sewer system. Avoid penetrating into the soil.~~

SECTION 14 : TRANSPORT INFORMATION

~~Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2021 - IMDG 2020 [40-20] - ICAO/IATA 2022 [63]).~~

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2023 - IMDG 2022 [41-22] - ICAO/IATA 2023 [64]).

SECTION 15: Regulatory information

15.2. Chemical safety assessment

~~Monopropylene glycol methyl ether~~

~~2-Methylpentane-2,4-diol~~

Explosives precursors :

The mixture does not contain any substance subject to Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

SECTION 16 : OTHER INFORMATION

Wording of the phrases mentioned in section 3 :

~~H312~~	~~Harmful in contact with skin.~~
~~H315~~	~~Causes skin irritation.~~
~~H332~~	~~Harmful if inhaled.~~
~~H336~~	~~May cause drowsiness or dizziness.~~
~~H361d~~	~~Suspected of damaging the unborn child.~~
~~H411~~	~~Toxic to aquatic life with long lasting effects.~~
H228	Flammable solid.
H302	Harmful if swallowed.

Abbreviations and acronyms :

~~CMR: Carcinogenic, mutagenic or reprotoxic.~~