

SAFETY DATA SHEET

M-Flux SS


ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP)
& 2020/878

www.vpgsensors.com
Date of issue: 10/01/2023
Date of First Issue: 18/07/2012
Version 4.0

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

1.1 Product identifier		
Product Name	M-Flux SS	
Product Code	Not applicable	
Unique Formula Identifier (UFI)	Not applicable	
Nanoform	The product does not contain nanoparticles.	
1.2 Relevant identified uses of the substance or mixture and uses advised against		
Identified Use(s)	Welding and soldering products (with flux coatings or flux cores), flux products	
Uses Advised Against	Anything other than the above.	
1.3 Details of the supplier of the safety data sheet		
Company Identification	VISHAY MEASUREMENTS GROUP GMBH Tatschenweg 1 74078 Heilbronn Deutschland	
Telephone	+49 (0) 7131 39099-0	
Fax	+49 (0) 7131 39099-229	
E-Mail (competent person)	mm.de@vpgsensors.com	
1.4 Emergency telephone number		
National Poisons Information Service (United Kingdom)	+44 (0) 3448 920111	24 hr. emergency phone number Healthcare Professionals ONLY Members of Public CHEMTREC (24 hours)
NHS 24	111	
Emergency Phone No.	(00-1) 703-527-3887	
Languages spoken	All official European languages.	

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture		
2.1.1 Regulation (EC) No. 1272/2008 (CLP)	Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 STOT SE 2; H371 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	
2.2 Label elements		
Product Name	M-Flux SS	
Hazard Pictogram(s)		
Signal Word(s)	DANGER	
Contains:	Hydrochloric Acid; Zinc Chloride; Ammonium chloride; Methanol	

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Hazard Statement(s)	H290: May be corrosive to metals. H302: Harmful if swallowed. H314: Causes severe skin burns and eye damage. H318: Causes serious eye damage. H335: May cause respiratory irritation. H371: May cause damage to organs. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects.
Precautionary Statement(s)	P280: Wear protective gloves/protective clothing and eye/face protection. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310: Immediately call a POISON CENTER/doctor. P260: Do not breathe mist/vapours/spray. P273: Avoid release to the environment. P391: Collect spillage.
Supplemental information	None Known
2.3 Other hazards	None Known

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances - Not applicable.

3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard classification
Zinc Chloride	30 - < 35	7646-85-7	231-592-0	Not yet assigned in the supply chain	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Hydrochloric Acid	30 - < 35	7647-01-0	231-595-7	Not yet assigned in the supply chain	Met. Corr. 1; H290 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335
Ammonium Chloride	3 - 5	12125-02-9	235-186-4	Not yet assigned in the supply chain	Acute Tox. 4; H302 Eye Irrit. 2; H319
Methanol	3 - 5	67-56-1	200-659-6	Not yet assigned in the supply chain	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H311 Acute Tox. 3; H331 STOT SE 1; H370 (Optic nerve, Central nervous system)

Specific concentration limit (SCL) & M-factor

Chemical identity of the substance	CAS No.	EC No.	Specific concentration limit (SCL)	M-factor
Hydrochloric Acid	7647-01-0	231-595-7	Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 % STOT SE 3; H335: C ≥ 10%	-
Methanol	67-56-1	200-659-6	STOT SE 1; H370: C ≥ 10 % STOT SE 2; H371: 3 % ≤ C < 10 %	-

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Note: For full text of H phrases see section 16.

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Self-protection of the first aider

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid all contact. Do not breathe vapour. Do not ingest. If swallowed then seek immediate medical assistance. Avoid all contact. Contaminated clothing should be laundered before reuse.

Inhalation

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor.

Skin Contact

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Continue irrigation until medical attention can be obtained. Immediately call a POISON CENTER/doctor.

Eye Contact

IF IN EYES: Flush eyes with water for at least 15 minutes while holding eyelids open. Immediately call a POISON CENTER/doctor. Continue irrigation until medical attention can be obtained. Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.

Ingestion

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Continue irrigation until medical attention can be obtained. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Causes severe burns to skin, eyes, respiratory system and gastrointestinal tract. May cause respiratory irritation. May cause damage to organs. (Optic nerve, Central nervous system)

4.3 Indication of any immediate medical attention and special treatment needed

Notes to a physician:

Treat symptomatically.

IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist. Following severe exposure the patient should be kept under medical review for at least 48 hours.
IF INHALED: Initiate inhalative cortisone therapy (e.g. Auxilison, Thomae).

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media

As appropriate for surrounding fire. Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Unsuitable extinguishing media

Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture

May release toxic metal halide and corrosive hydrochloric acid fumes. May react to form hydrogen gas. May be corrosive to metals. Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide, Nitrogen oxides, halogenated compounds. The vapour is heavier than air; beware of pits and confined spaces.

5.3 Advice for fire-fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Do not allow to enter drains, sewers or watercourses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Stop leak if safe to do so. Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe vapour. Avoid all contact. Do not ingest. If swallowed then seek immediate medical assistance. Isolate the area and allow vapours to disperse.

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- 6.2 Environmental precautions** Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.
- 6.3 Methods and material for containment and cleaning up** Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste
- 6.4 Reference to other sections** See Section: 8, 13

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Avoid all contact. Do not breathe vapour. Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Contaminated clothing should be laundered before reuse. The vapour is heavier than air; beware of pits and confined spaces. Isolate the area and allow vapours to disperse. In confined spaces, sewers, etc., the vapours may collect to form explosive mixtures with air.
- 7.2 Conditions for safe storage, including any incompatibilities**
Storage temperature: Ambient.
Storage life: Stable under normal conditions.
Incompatible materials: Forms flammable and explosive hydrogen through corrosion of metals. Alkaline materials and materials containing chlorine. Nitrates. Strong oxidising agents
- 7.3 Specific end use(s)** See Section: 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Control parameters**
8.1.1 Occupational Exposure Limits

United Kingdom

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Zinc Chloride	7646-85-7	-	1	-	2	-
Hydrochloric Acid	7647-01-0	1	2	5	8	-
Ammonium Chloride	12125-02-9	-	10	-	20	-
Methanol	67-56-1	200	266	250	333	Sk

Source: UK WEL: Workplace Exposure Limit (UK HSE EH40)

Notations:

Sk: Can be absorbed through skin.

Ireland

SUBSTANCE	CAS No.	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		Notes
		ppm	mg/m ³	ppm	mg/m ³	
Zinc Chloride	7646-85-7	-	1	-	2	-
Hydrochloric Acid	7647-01-0	5	8	10	15	IOELV
Ammonium Chloride	12125-02-9	-	10	-	20	-
Methanol	67-56-1	200	260	-	-	Sk, IOELV

Source: 2021 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulation (2001 – 2021) and the Safety, Health and Welfare at Work (Carcinogens) Regulations (2001 – 2019); Health and Safety Authority

Notations:

IOELV: Indicative Occupational Exposure Limit Value

Sk: Can be absorbed through skin.

- 8.1.2 Biological limit value** Not established

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- 8.1.3 PNECs and DNELs** Not established.
- 8.2 Exposure controls**
- 8.2.1 Appropriate engineering controls** Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. A washing facility/water for eye and skin cleaning purposes should be present.
- 8.2.2 Individual protection measures, such as personal protective equipment (PPE)** General hygiene measures for the handling of chemicals are applicable. Avoid all contact. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be laundered before reuse. Do not eat, drink or smoke at the work place.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Eye/ face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

Skin protection



Hand protection:

Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Protective index 6, corresponding > 480 minutes of permeation time according to EN 374

Suitable materials:

Nitrile rubber (Minimum thickness: 0.11 mm; breakthrough time: > 480 min)

Polyvinyl chloride - PVC (Minimum thickness: 1.2 mm; breakthrough time: > 480 min)

Butyl rubber (Minimum thickness: 0.7 mm; breakthrough time: > 480 min)

Body protection:

Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection



Use only in well-ventilated areas. In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. Select a filter suitable for organic gases and vapours. Recommended: EN143, Filter type A.

Thermal hazards

Not applicable

- 8.2.3 Environmental exposure controls** Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Clear liquid
Odour	Odourless.
Melting point and freezing point	No data available
Boiling point or initial boiling point and boiling range	108°C
Flammability	Non-flammable
Lower and upper explosion limit or lower and upper flammability limit	No data available

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Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	No data available
Kinematic viscosity	No data available
Solubility	Miscible with water
Partition coefficient: n-octanol/water (log value)	not applicable
Vapour pressure	No data available
Density and/or relative density	1.35 g/cm ³ (H ₂ O = 1)
Relative vapour density	0.48 (Air = 1)
Particle characteristics	not applicable

9.2 Other information

Explosive properties	Not explosive
Oxidising properties	Not oxidising.
Evaporation rate	<1 (BuAc = 1)
Volatile Organic Compound Content	<15 Percent Volatile by volume (%)

SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	Stable under normal conditions.
10.2	Chemical stability	Reacts with metals.
10.3	Possibility of hazardous reactions	Hazardous polymerisation will not occur.
10.4	Conditions to avoid	In contact with hot metals like iron, explosive hydrogen gas may evolve.
10.5	Incompatible materials	May be corrosive to metals.
10.6	Hazardous decomposition product(s)	Hydrogen chloride, Zinc oxide, Ammonia. Carbon oxides may be formed. Formaldehyde Combustion products: Alkaline materials and materials containing chlorine. Nitrates. Strong oxidising agents

SECTION 11: TOXICOLOGICAL INFORMATION

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

Acute toxicity

Ingestion

	Mixture: Acute Tox. 4; H302: Harmful if swallowed. Estimated LD50 > 300 - < 2000 mg/kg bw/day
Zinc Chloride	Acute Tox. 4; H302: Harmful if swallowed LD50 (oral,rat) mg/kg: 1100 (OECD 401) ECHA registration dossier
Ammonium Chloride	Acute Tox. 4; H302: Harmful if swallowed LD50 (oral,rat) mg/kg: 1410 (OECD 401) ECHA registration dossier
Methanol	Acute Tox. 3; H301: Toxic if swallowed. LD50 (oral,rat) mg/kg: 1187 - 2769 ECHA registration dossier
Inhalation	Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20 mg/l. (Vapour)
Skin Contact	Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LD50 > 2000 mg/kg bw/day.
Skin corrosion/irritation	Mixture: Skin Corr. 1A; H314: Causes severe skin burns and eye damage.
Zinc Chloride	Skin Corr. 1A; H314: Causes severe skin burns and eye damage. Test Result: Corrosive to skin. ECHA registration dossier
Hydrochloric Acid	Skin Corr. 1B; H314: Causes severe skin burns and eye damage. Test Result: Corrosive to skin high concentrations >10% (In vitro) (OECD 431) SCL: Skin Corr. 1B; H314: C >= 25% Skin Irrit. 2; H315: 10% = < C < 25%

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Serious eye damage/irritation	ECHA registration dossier Mixture: Eye Dam. 1; H318: Causes serious eye damage. Zinc Chloride Eye Dam. 1; H318: Causes serious eye damage. No data available Hydrochloric Acid Eye Dam. 1; H318: Causes serious eye damage. Test Result: Corrosive to eyes high concentrations >1% ECHA registration dossier Ammonium Chloride Eye Irrit. 2; H319: Causes serious eye irritation. Test Result: Irritating to eyes. ECHA registration dossier
Respiratory or skin sensitization	Mixture: Based upon the available data, the classification criteria are not met.
Germ cell mutagenicity	Mixture: Based upon the available data, the classification criteria are not met.
Carcinogenicity	Mixture: Based upon the available data, the classification criteria are not met.
Reproductive toxicity	Mixture: Based upon the available data, the classification criteria are not met.
STOT - single exposure	Mixture: STOT SE 2; H371: May cause damage to organs. STOT SE 3; H335: May cause respiratory irritation. Methanol STOT SE 1; H370: Causes damage to organs: Optic nerve, Central nervous system SCL: STOT SE. 1; H370: C >= 10% STOT SE. 2; H371: 3% =< C < 10% Harmonised Classification and ECHA registration dossier Hydrochloric Acid STOT SE 3; H335: May cause respiratory irritation. SCL: STOT SE. 3; H335: C >= 10% Harmonised Classification and ECHA registration dossier
STOT - repeated exposure	Mixture: Based upon the available data, the classification criteria are not met.
Aspiration hazard	Mixture: Based upon the available data, the classification criteria are not met.
11.2 Information on other hazards	
11.2.1 Endocrine disrupting properties	This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
11.2.2 Other information	None

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Aquatic Acute 1; H400: Very toxic to aquatic life. Aquatic Chronic 1; H410: Very toxic to aquatic life with long lasting effects. Estimated LC50 (Fish) ≤ 1 mg/l (96 hour) Zinc Chloride Aquatic Acute 1; H400: Very toxic to aquatic life. Acute toxicity: LC50 mg Zn/L 0.315 (Oncorhynchus mykiss (Rainbow trout)) Acute toxicity: LC50 mg Zn/L 0.330 (Pimephales promelas (fathead minnow)) Aquatic Chronic 1; H410: Very toxic to aquatic life with long lasting effects. Chronic Toxicity: NOEC mg Zn/L mg/l 0.44 – 0.53 (Cyprinodontidae Jordanella, Phoxinus, Pimephales, Oncorhynchus, Salvelinus, Salmo trutta and Cottus) ECHA Registration Endpoint summary
12.2 Persistence and degradability	No data for the mixture as a whole. Zinc Chloride Biodegradation is not relevant for metals and inorganic substances. Hydrochloric Acid No data available Ammonium Chloride Not applicable for inorganic substances. Methanol Readily biodegradable. Water % Degradation: 71 - 95 (5 and 20 days) freshwater Water % Degradation: 69 - 97 marine water ECHA registration dossier
12.3 Bioaccumulative potential	No data for the mixture as a whole. Zinc Chloride The substance has low potential for bioaccumulation. Hydrochloric Acid The substance completely dissociates in contact with water and any adverse effect from the substance would be due to changes in pH - Study scientifically unjustified

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12.4	Mobility in soil	Ammonium Chloride	The substance has low potential for bioaccumulation.
		Methanol	The substance has high mobility in soil. Miscible with water. No data for the mixture as a whole.
		Zinc Chloride	The substance is predicted to have high mobility in soil. Soluble in water.
		Hydrochloric Acid	The substance is predicted to have high mobility in soil. Soluble in water.
		Ammonium Chloride	The substance is predicted to have high mobility in soil. Soluble in water.
12.5	Results of PBT and vPvB assessment	Methanol	The substance has high mobility in soil. Miscible with water.
12.6	Endocrine disrupting properties		Not classified as PBT or vPvB. This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
12.7	Other adverse effects		None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	Waste treatment methods	This material and its container must be disposed of as hazardous waste. Dispose of wastes in an approved waste disposal facility. Waste classification according to Directive 2008/98/EC (Waste Framework Directive): HP 5 Specific Target Organ Toxicity/Aspiration Toxicity HP 6 Acute toxicity HP 8 Corrosive HP 14 Ecotoxic
13.2	Additional Information	Dispose of contents in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	ADN	IMDG	IATA/ICAO
14.1	UN number or ID number	UN 1760	UN 1760	UN 1760
14.2	UN proper shipping name	CORROSIVE LIQUID, N.O.S (Zinc Chloride, Hydrochloric Acid)		
14.3	Transport hazard class(es)	8	8	8
14.4	Packing group	II	II	II
14.5	Environmental hazards	ENVIRONMENTALLY HAZARDOUS	ENVIRONMENTALLY HAZARDOUS	CLASSIFIED AS A MARINE POLLUTANT. ENVIRONMENTALLY HAZARDOUS
14.6	Special precautions for user	See Section: 2		
14.7	Maritime transport in bulk according to IMO instruments	No information available.		
14.8	Additional Information	No information available.		

SECTION 15: REGULATORY INFORMATION

15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture	
15.1.1	EU regulations	
	Use restriction according to REACH annex XVII, no.:	Product: Entry number: 3 Methanol Entry number: 40, 69
	Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]	E1
	Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]	

Solvent VOC-value:

VOC-value %W/W	Temperature	Method
3 - 5	20 °C	calculated

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Other relevant ingredients:

Concentration %W/W	Components	Method
95 – 97	non volatile content	calculated

Restrictions of occupation:

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

To follow:

Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work

15.1.2 National regulations

Germany

Water hazard class (WGK)

strongly hazardous to water (WGK 3)

15.2 Chemical Safety Assessment

A REACH chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: New SDS Regulation 2020/878 format, all sections have been updated to include new information. Please review SDS with care.

References:

Existing Safety Data Sheet (SDS) Existing ECHA registration(s) for and Harmonised Classification(s) for Zinc Chloride (CAS No. 7646-85-7), Ammonium Chloride (CAS No. 12125-02-9), Hydrochloric Acid (CAS No. 7647-01-0), Methanol (CAS No. 67-56-1)

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Met. Corr. 1; H290	Expert judgement
Acute Tox. 4; H312	Acute Toxicity Estimate Mixture Calculation
Skin Corr. 1A; H314	Threshold Calculation
Eye Dam. 1; H318	Threshold Calculation
STOT SE 3; H335	Threshold Calculation
STOT SE 2; H371	Threshold Calculation
Aquatic Acute 1; H400	Summation Calculation
Aquatic Chronic 1; H410	Summation Calculation

LEGEND

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL	Derived no effect level
EU	European Union
EC	European Community
ECHA	European Chemicals Agency
EN	European Standard
EC50	Effect concentration; 50 %
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LC50	Lethal concentration at which 50% of the population is killed
LD50	Lethal dose at which 50% of the population is killed
LTEL	Long term exposure limit
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Cooperation and Development

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PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time Weighted Average
SCL	Specific concentration limit (SCL)
STEL	Short term exposure limit
vPvB	very Persistent and very Bioaccumulative
UN	United Nations

Hazard classification / Classification code:

Flam. Liq. 2; Flammable Liquid, Category 2
Met. Corr. 1; Corrosive to: Metal
Acute Tox. 3; Acute toxicity, Category 3

Acute Tox. 4; Acute toxicity, Category 4
Skin Corr. 1A/B ; Skin corrosion/irritation, Category 1A/B
Skin Irrit. 2; Skin corrosion/irritation, Category 2
Eye Dam. 1; Eye damage, category 1
Eye Irrit. 2; Eye Irritation Category 2
STOT SE 3; Specific target organ toxicity — single exposure, Category 3
STOT SE 1; Specific target organ toxicity — single exposure, Category 1
STOT SE 2; Specific target organ toxicity — single exposure, Category 2

Hazard Statement(s)

H225: Highly flammable liquid and vapour.
H290: May be corrosive to metals.
H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H331: Toxic if inhaled.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H370: Causes damage to organs.
H371: May cause damage to organs.

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Disclaimers

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