

Revision nr. 3

Dated 26/10/2022

Printed on 26/10/2022

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Replaced revision:2 (Printed on: 29/10/2020)

# TEK, TEK ANTI-SPATTER, ANTI-SPATTER SPRAY

# **Safety Data Sheet**

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name TEK. TEK ANTI-SPATTER, ANTI-SPATTER SPRAY

Chemical name and synonym GB4501/ UTI000064/ UTI000091 UFI: US00-H02H-D000-MRW4

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

Intended use Anti-adhesive for welding (aerosol)

Identified Uses	Industrial	Professional	Consumer
USE	<b>✓</b>	<b>~</b>	-
Uses Advised Against			

The relevant uses are listed above. No other uses are recommended.

## 1.3. Details of the supplier of the safety data sheet

Name TRAFIMET GROUP SPA A SOCIO UNICO

Full address via del Lavoro, 8
District and Country 36020 Castegnero (VI)

ITALIA

Tel. +39 0444 739900 Fax +39 0444 739999

e-mail address of the competent person

responsible for the Safety Data Sheet msds@trafimet.com

## 1.4. Emergency telephone number

For urgent inquiries refer to NHS 111

## **SECTION 2. Hazards identification**

## 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Aerosol, category 3	H229	Pressurised container: may burst if heated.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.



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#### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

#### Hazard pictograms:





Signal words: Warning

#### Hazard statements:

**H229** Pressurised container: may burst if heated.

H351 Suspected of causing cancer.
H319 Causes serious eye irritation.
H315 Causes skin irritation.

**H336** May cause drowsiness or dizziness.

### Precautionary statements:

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**P211** Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

**P260** Do not breathe [dust / fume / gas / mist / vapours / spray].

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves / protective clothing / eye protection / face protection.
P410+P412 Protect from sunlight. Do no expose to temperatures exceeding 50°C / 122°F.
Dispose of the product / container in accordance with local regulations.

Contains: DICHLOROMETHANE

#### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

## Other dangers:

Aerosol containers exposed to temperatures above 50 °C can deform and burst and be thrown a considerable distance.

The vapors are heavier than air and can be localized in confined spaces, spread to the ground and can form flammable and explosive mixtures with the air in case of ignition even from a distance, with a consequent risk of fire.

The aerosol contains an asphyxiating gas, avoid the accumulation of vapors in large quantities in confined environments as it can cause asphyxiation due to lack of oxygen. Exposure to high concentrations of vapors, particularly in confined and inadequately ventilated areas, can cause irritation to the respiratory tract, nausea, malaise and dizziness



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## **SECTION 3. Composition/information on ingredients**

#### 3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

Identification x = Conc. % Classification (EC) 1272/2008 (CLP)

**DICHLOROMETHANE** 

INDEX 602-004-00-3 80 ≤ x < 90 Carc. 2 H351, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H336

EC 200-838-9 CAS 75-09-2

REACH Reg. 01-2119480404-41

The full wording of hazard (H) phrases is given in section 16 of the sheet.

The product is an aerosol containing propellants. For the purposes of calculation of the health hazards, propellants are not considered (unless they have health hazards). The percentages indicated are inclusive of the propellants.

Percentage of propellants: 7,00 %

## **SECTION 4. First aid measures**

#### 4.1. Description of first aid measures

In case of skin contact:

Immediately take off contaminated clothing and wash it before reuse.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash the body completely (shower or bath). In case of irritation consult a doctor.

In case of eye contact:

In case of contact with the eyes, rinse them immediately and abundantly with water for at least 15 minutes keeping the eyelids open, removing the contact lenses if the situation allows to carry out the operation easily. Consult an ophthalmologist immediately. Protect the uninjured eye. In case of ingestion:

Accidental ingestion of an aerosol product is hardly likely. If this occurs, consult a doctor; induce vomiting only on doctor's instructions; do not administer anything by mouth if the subject is unconscious.

In case of inhalation:

Take the injured person to fresh air and keep him warm and at rest. Consult a physician if breathing is difficult.

Protective measures for first responders:

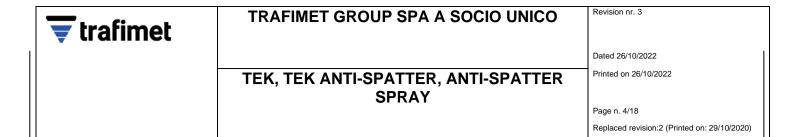
For the PPE necessary for first aid interventions refer to section 8.2 of this Safety Data Sheet.

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

Causes skin irritation. Causes serious eye irritation. It can cause drowsiness or dizziness. Suspected of causing cancer.

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

In the event of an accident or if you feel unwell, seek medical advice immediately (if possible show the instructions for use or the safety data sheet). Treatment: None in particular.



## **SECTION 5. Firefighting measures**

#### 5.1. Extinguishing media

Suitable extinguishing media: Carbon dioxide (CO2), foam or powder extinguisher. Extinguishing media which must not be used for safety reasons: None in particular.

#### 5.2. Special hazards arising from the substance or mixture

Do not inhale the gases produced by the explosion and combustion.

Combustion generates a complex mixture of gases, including CO (carbon monoxide), CO2 (carbon dioxide) and unburned hydrocarbons. The container exposed to a temperature higher than 50 ° C can deform and burst.

#### 5.3. Advice for firefighters

If feasible from a safety point of view, move undamaged containers from the area of immediate danger. Cool the containers hit by the fire with water spray to avoid overheating. Do not let extinguishing media enter sewers or water courses.

Wear complete fireproof protective equipment (Type EN 11611 or EN469), with compressed air breathing apparatus (Type EN 137), helmet with visor and neck protection (Type EN443), heat-resistant gloves (Type EN407). Collect the contaminated water used to extinguish the fire separately. Do not discharge it into the sewer system.

## **SECTION 6. Accidental release measures**

## 6.1. Personal precautions, protective equipment and emergency procedures

For those who do not intervene directly: Evacuate the surrounding areas and prevent the entry of external and unprotected personnel. Notify the emergency teams.

Stop the leak if there is no danger. Do not handle damaged containers or spilled product without first wearing appropriate protective equipment. Avoid breathing vapors or mist. For information on environmental and health risks, respiratory tract protection, ventilation and personal protective equipment, refer to section 8.

For emergency responders: Emergency workers are recommended to wear adequate personal protective equipment as indicated in section 8. In the event that the situation cannot be fully assessed or if there is a risk of oxygen deficiency, use only a self-contained respirator (Type EN137).

## 6.2. Environmental precautions

Prevent penetration into soil / subsoil. Prevent runoff into surface water or sewerage.

In the event of a gas leak or penetration into water courses, soil or sewage system, inform the responsible authorities. Suitable material for collection: absorbent, organic, sand.

## 6.3. Methods and material for containment and cleaning up

Provide adequate ventilation. Use non-sparking tools and equipment. Wash with plenty of water. Limit and collect any spills with non-combustible absorbent material such as sand, earth, vermiculite, diatomite and dispose of the product through an authorized disposal company.

#### 6.4. Reference to other sections

See also paragraphs 8 and 13.

## **SECTION 7. Handling and storage**



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#### 7.1. Precautions for safe handling

Pressurized container. Do not pierce or burn even after use. Do not use in the presence of open flames or other sources of ignition. Not smoking. Do not spray on flame or incandescent bodies. Do not spray on hot surfaces.

USE ONLY IN A WELL-VENTILATED PLACE.

Protect from sunlight. Do not expose to temperatures above 50 ° C / 122 ° F. Avoid contact with skin and eyes, inhalation of vapors and mists.

Environmental protection measures: Minimize the release of the mixture into the air and the surrounding environment, avoiding accidental spills and keeping the product stored away from sewage.

Occupational hygiene precautions: Contaminated clothing must be replaced before entering the dining areas. During work do not eat, drink or smoke in the work areas. Wash your hands after using the product. See also paragraph 8 for the recommended protective devices.

## 7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions: Store in a well-ventilated place away from direct sunlight.

Recommended storage temperature: from 15 ° C to 30 ° C. Keep the containers upright and safe, avoiding the possibility of falls or knocks. Do not store the product in corridors and stairs. Store the product only in original and closed packaging, do not pierce or open the aerosols containers. Keep away from food, drink and feed.

Incompatible materials: DO NOT store together with oxidizing, self-igniting, self-heating, organic peroxides, oxidizing agents, pyrophoric liquids and solids, explosives. See also paragraph 10 below.

Indication for the premises: Fresh and adequately ventilated.

Storage Classes: Refer to Section 15.1 for Storage Classes / Limits (Seveso III).

Storage class TRGS 510 (Germany):

2B

## 7.3. Specific end use(s)

Refer to the identified uses referred to in subsection 1.2.

## **SECTION 8. Exposure controls/personal protection**

#### 8.1. Control parameters

Regulatory References:

DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
DNK	Danmark	Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
NOR	Norge	Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255
PRT	Portugal	Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2021

## **DICHLOROMETHANE**

**Threshold Limit Value** 



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Туре	Country	Country TWA/8h		STEL/15min			Remarks / Observations		
		mg/m3	ppm	mg/m3	ppm				
AGW	DEU	180	50	360	100	SKIN			
TLV	DNK	122	35			SKIN	E		
VLEP	FRA	178	50	356	100	SKIN			
TLV	NOR	50	15	150	45	SKIN			
VLE	PRT	353	100	706	200	SKIN			
NDS/NDSCh	POL	88		353		SKIN			
WEL	GBR	353	100	706	200	SKIN			
OEL	EU	353	100	706	200	SKIN			
TLV-ACGIH		174	50						
Predicted no-effect conce	entration - PNEC								
Normal value in fresh wa	ter			0,31	mg.	/I			
Normal value in marine w	vater			0,031	mg.	/I			
Normal value for fresh wa	ater sediment			2,57	mg.	/kg			
Normal value for marine	water sediment			0,26	mg.	/kg			
Normal value for water, ir	ntermittent release			0,27	mg.	/I			
Normal value of STP mic	roorganisms			26	mg.	/I			
Normal value for the terre	estrial compartment			0,33	mg	/kg			
Health - Derived no-		DMEL							
	Effects on consumers				Effects on workers				
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic	

Health - Derived no-effect I	evel - DNEL / D	MEL						
	Effects on				Effects on			
	consumers				workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		0,06 mg/kg bw/d				
Inhalation	NPI	NPI	NPI	44 mg/m3	NEA	NPI	NEA	176 mg/m3
Skin	NEA	NPI	NEA	5,82 mg/kg bw/d	NPI	NPI	NPI	12 mg/kg bw/d

Legend:

(C) = CEILING; INHAL = Inhalable Fraction; RESP = Respirable Fraction; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

## 8.2. Exposure controls

Appropriate technical checks:

Properly ventilate the rooms where the product is stored and / or handled. Use only with adequate ventilation. Localized ventilation may be necessary for some operations. Minimize workplace exposure concentrations. Use technical equipment to keep concentrations in the air below the exposure limit or quidelines.

Provide an emergency shower with face and eye wash station.

### HAND PROTECTION

Generally not necessary. For prolonged use or hypersensitivity it is recommended to protect your hands with gloves resistant to chemical products Type



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EN374 (PVC, PE, neoprene, Nitrile, Viton, not natural rubber). Gloves with protection factor 6 are recommended: breakthrough time> 480min, min thickness 0.3mm. Change the gloves that may be used in the presence of signs of wear, cracks or internal contamination.

#### SKIN PROTECTION:

Wear clean antistatic clothing with consistent coverage and antistatic safety footwear for professional use of category S2 (Type EN20345). In the event of prolonged contact, use protective clothing impervious to this material: gowns, aprons or complete coveralls (Type EN 340-EN13034).

#### EYE PROTECTION

Use safety glasses with side protection EN166. If exposure to vapors causes discomfort to the eyes, use full face gas masks.

#### RESPIRATORY PROTECTION

Generally not necessary for normal use. Air concentration levels should be kept below exposure limits. When the concentration in the air exceeds the TLV, respiratory protection is required: use EN149 FFP2 approved masks or EN140 semi-face respirators with Filter Type EN143: A2 or full face respirators EN136 (Filter Type EN143: A2).

## ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## **SECTION 9. Physical and chemical properties**

### 9.1. Information on basic physical and chemical properties

Properties	Value .	Information
Appearance	aerosol	
Colour	transparent	
Odour	characteristic of solvent	
Melting point / freezing point	not available	
Initial boiling point	not applicable	
Flammability	not applicable	
Lower explosive limit	1,8	
Upper explosive limit	15	
Flash point	< 0 °C	
Auto-ignition temperature	> 300 °C	
Decomposition temperature	not available	
рН	not applicable	
Kinematic viscosity	not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	3-5 bar	

#### 2

not available

Particle characteristics not applicable

## 9.2. Other information

Density and/or relative density Relative vapour density

9.2.1. Information with regard to physical hazard classes

Information not available



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9.2.2. Other safety characteristics

Explosive properties not explosive
Oxidising properties not oxidizing

## **SECTION 10. Stability and reactivity**

## 10.1. Reactivity

Stable under normal conditions. Under normal conditions of use there are no particular dangers of reaction with other substances.

#### DICHLOROMETHANE

Decomposes at temperatures above 120°C/248°F.

#### 10.2. Chemical stability

Pressurized container. Do not pierce or burn even after use. Protect from sunlight. Do not expose to temperatures above 50 ° C / 122 ° F. Refer to the instructions in section 7 for handling and storage.

#### 10.3. Possibility of hazardous reactions

Under normal conditions of use and storage, hazardous reactions are not foreseeable. If released, the vapors can form explosive mixtures with air. If overheated, aerosol containers can deform, burst and be projected at a considerable distance.

#### DICHLOROMETHANE

Risk of explosion on contact with: alkaline metals,nitric acid,aluminium powder,ethanediamine,aluminium chloride,perchloric acid,dinitrogen pentoxide,sodium nitride,n-nitroso n-methylurea,potassiun hydroxide.May react dangerously with: alkaline earth metals,metal powders,sodium amides,potassium tert-butylate.May form explosive mixtures with: air.

## 10.4. Conditions to avoid

Avoid exposure to sunlight, avoid overheating and temperatures> 50 ° C. Keep away from agents oxidants.

#### DICHLOROMETHANE

Avoid exposure to: naked flames, overheated surfaces.

## 10.5. Incompatible materials

Avoid contact with strong reducing agents and oxidants, strong acids and bases, materials at high temperatures.

## DICHLOROMETHANE

Incompatible with: aluminium,magnesium,sodium,potassium,nitric acid,caustic substances,strong oxidants.

## 10.6. Hazardous decomposition products

It does not decompose under normal conditions. For thermal decomposition refer to section 5.



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#### DICHLOROMETHANE

May develop: dioxins,phosgenes,hydrochloric acid.

## **SECTION 11. Toxicological information**

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

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

Metabolism, toxicokinetics, mechanism of action and other information

#### DICHLOROMETHANE

Dichloromethane is rapidly absorbed by inhalation, at the level of the pulmonary alveoli, and enters the bloodstream (70-75%). It is also rapidly absorbed from the gastrointestinal tract. Poor percutaneous absorption (unless the contact with the skin is in very large quantities or is prolonged by concomitant factors: soaked clothes, films to prevent evaporation in paint strippers ...).

Following inhalation and oral exposure, it rapidly distributes to highly vascularized organs: brain, heart, kidneys, lungs, liver and endocrine glands, and subsequently to muscles, skin and adipose tissue.
Following oral exposure it is rapidly eliminated mainly with exhaled air.

It can cross the blood-brain barrier and the placental barrier. It is found in milk and urine in moderate quantities.

Most of the absorbed dichloromethane is exhaled in unchanged form with the exhaled air and only a small amount (25-30% of the absorbed dose) is metabolized into monoxide, carbon dioxide and chlorinated minerals. There are two metabolic pathways: the first is an oxidation process by cytochrome P-450 with the formation of carbon monoxide and carbon dioxide and this leads to an increase in carboxyhemoglobin. This is the most important metabolic pathway for low doses and has the characteristic of being a saturation pathway. Therefore, this route does not allow an increase in metabolism in the presence of high doses.

The second way uses glutathione transferase and leads to the formation of carbon dioxide, passing through formaldehyde and formate. This second way would intervene when the first is saturated. However, there are differences in the various species observed. In humans, for example, it seems that this second way is little used (Bozza-Marrubini).

Information on likely routes of exposure

#### DICHI OROMETHANE

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

## DICHLOROMETHANE

Inhalation for 4 hours between 200 and 750 ppm causes CNS depression (fatigue, drowsiness), headache and nausea. Inhalation of high concentrations causes severe, sometimes fatal, intoxication. Coma with rapid onset and even myocardial infarction favored by associated hypoxia can occur. In the course of these intoxications, an increase in carboxyhemoglobin is observed, delayed for a few hours. In some cases, kidney and liver complications occur. Human data indicate that, at high concentrations, it can be irritating to the respiratory system. Following ingestion, there are corrosive lesions of the gastrointestinal



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tract, respiratory disorders and consciousness. Hepatic, renal and pancreatic complications can also occur. In humans, epidemiological studies have shown no effects on the CNS, cardiac or physiological parameters attributable to chronic exposures above an average of 1650 mg / m3. The substance, as a result of chronic inhalation, causes an increase in carboxyhemoglobin. On the skin, due to its degreasing properties, it can cause redness, flaking and cracking (INRS, 2010).

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture:

ATE (Oral) of the mixture:

Not classified (no significant component)

Not classified (no significant component)

ATE (Dermal) of the mixture:

Not classified (no significant component)

DICHLOROMETHANE

 LD50 (Dermal):
 > 2000 mg/kg Rat

 LD50 (Oral):
 > 2000 mg/kg Rat

 LC50 (Inhalation vapours):
 86 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

DICHLOROMETHANE

It was found to be mutagenic on bacteria [OECD TG 471] and non-mutagenic on mammalian cells "in vitro" (OECD, 2011). It was found to be clastogenic "in vitro" [OECD TG 473] (OECD, 2011).



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In vitro"

dichloromethane induces gene mutations both in the presence and in the absence of metabolic activation in bacteria (S. typhimurium and E. coli), yeast and mouse lymphoma cells but not in cultured mammalian cells; chromosomal aberrations and sister chromatid exchanges in Chinese hamster ovary cells, mouse lymphoma cells and human peripheral lymphocytes; it does not induce unscheduled synthesis or DNA repair (INRS, 2010).

It was not genotoxic in standard studies conducted in rats and mice "in vivo" (OECD, 2011).

In vivo"

causes DNA breakdown in mouse liver and lung (after oral administration) and rat liver (after oral administration), but not unscheduled synthesis or DNA alkylation after oral or inhalation exposure; causes chromosomal aberrations, sister chromatid exchanges in bone marrow and lungs and micronuclei in peripheral mouse erythrocytes after inhalation of high concentrations but not by other routes of administration (s.c., i.p.) and not in the rat (INRS, 2010). It does not cause dominant lethality in mice or sex-linked lethality in drosophila (INRS, 2010).

#### CARCINOGENICITY

Suspected of causing cancer

#### DICHLOROMETHANE

Classified in group 2A (probable human carcinogen) by the International Agency for Research on Cancer (IARC).

Classified as a "probable carcinogen" by the US National Toxicology Program (NTP) - (US DHHS, 2014).

In a two-year study, inhaled administration of dichloromethane to F344 / N rats and B6C3F1 mice showed "some evidence of carcinogenic activity" in male rats, due to increased incidence of benign mammary gland tumors; "Clear evidence of carcinogenicity" in female rats, due to an increased incidence of benign mammary gland tumors; "Clear evidence of carcinogenicity" in male and female mice, due to increased incidence of alveolar / bronchial neoplasms and hepatocellular neoplasms (NTP, 1986).

Increased incidence of benign mammary tumors was observed in studies in inhaled rats (US EPA, 2014).

In a study of female rats treated by gavage, the incidence of malignant adenomas, mainly fibroadenomas, of the mammary gland was increased (US EPA, 2014).

Available data indicate a plausible mechanism for the development of liver and lung cancers that occurs in mice and not in rats exposed to dichloromethane (OECD, 2011).

The International Agency for Research on Cancer (IARC) allocates dichloromethane to group 2A (probable human carcinogen) based on evidence of limited human carcinogenicity (the substance causes biliary tract cancers and non-Hodgkin's lymphoma) and sufficient in laboratory animals (lung and hepatocellular malignancies in male and female mice in the NTP study, 1986). In formulating the global assessment, the IARC working group also took into consideration the strong evidence that: the metabolism of dichloromethane via glutathione-S-transferase T1 (GSTT1) leads to the formation of reactive metabolites, that the activity of GSTT1 is strongly associated with "in vitro" and "in vivo" genotoxicity, and that GSTT1-mediated metabolism of dichloromethane occurs in humans (Lamia Benbrahim-Tallaa, 2014).

-The US Environmental Protection Agency (EPA) allocates dichloromethane to the group of probable human carcinogens by all routes of exposure primarily based on evidence of carcinogenicity in the B6C3F1 (NTP, 1986) mouse assay (US EPA, 2014).

- The US National Toxicology Program (NTP) lists dichloromethane in the Thirteenth Report on Carcinogens allocating it to the category of probable carcinogens (US DHHS, 2014).

## REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility

## DICHLOROMETHANE

Available animal data do not indicate effects on fertility (INRS, 2010).



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Adverse effects on development of the offspring

## DICHLOROMETHANE

Dichloromethane crosses the placental barrier and is metabolized into carbon monoxide by the fetus. Available animal data do not indicate developmental toxicity; in fetuses of mice and rats (which had been exposed during gestation at 1250 ppm, 7 hours / day, from the 6th to the 15th day of gestation), weight loss and slightly delayed ossification (dilated renal pelvis in the rat and additional sternebras in mice) in the presence of maternal toxicity (increased liver weight and carboxyhemoglobin rate) (INRS, 2010).

## Effects on or via lactation

#### DICHLOROMETHANE

No data are available on the effects on or via lactation.

#### STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

#### Target organs

#### DICHLOROMETHANE

Dichloromethane is essentially toxic to the central nervous system, liver and lungs (INRS, 2010).

Human data indicate that, at high concentrations, it can be irritating to the respiratory system (OECD, 2011).

Inhalation for 4 hours at conc. Between 200 and 750 ppm, it causes CNS depression (fatigue, drowsiness), headache and nausea.

Inhalation of large concentrations causes severe, sometimes fatal, intoxication. Coma with rapid onset and even myocardial infarction favored by associated hypoxia can occur. During these intoxications, an increase in carboxyhemoglobin is observed, delayed for a few hours. In some cases, kidney and liver complications occur.

Following ingestion, there are corrosive lesions of the gastrointestinal tract, respiratory disorders and consciousness. Hepatic, renal and pancreatic complications can also occur.

## STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

#### Target organs

## DICHLOROMETHANE

In humans, epidemiological studies have shown no effect on the CNS or cardiac parameters or physiological parameters attributable to chronic exposure up to TWA concentrations (time-weighted average) of 1650 mg / m3.

The substance, as a result of chronic inhalation, causes an increase in carboxyhemoglobin.

On the skin, due to its degreasing properties, it can cause redness, flaking and cracking (INRS, 2010).

In animals, prolonged exposure to dichloromethane induces a depression of the central nervous system, it also causes effects on the liver, kidneys and respiratory tract (INRS, 2010).



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#### **ASPIRATION HAZARD**

Does not meet the classification criteria for this hazard class

#### 11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

## **SECTION 12. Ecological information**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

#### 12.1. Toxicity

**DICHLOROMETHANE** 

LC50 - for Fish 193 mg/l/96h Pimephales promelas

## 12.2. Persistence and degradability

## DICHLOROMETHANE

In the atmosphere it exists in the vapor phase.

The substance does not absorb light at > 290 nm, therefore it does not degrade by direct photolysis in the troposphere.

It degrades in the atmosphere by reaction with photochemically produced hydroxyl radicals (the half-life of this reaction has been estimated at 119 days). Only a small fraction of dichloromethane diffuses into the stratosphere where it is rapidly degraded by photolysis and reactions with chlorine radicals. Hydrolysis is not an important environmental degradation process, it is estimated a half-life of about 18 months.

It is expected to biodegrade completely under aerobic conditions with inoculation of sludge or activated sludge (from 6 hours to 7 days) and biodegrade also under anaerobic conditions (HSDB 2014)

**DICHLOROMETHANE** 

Solubility in water 13200 mg/l

Rapidly degradable

## 12.3. Bioaccumulative potential

## DICHLOROMETHANE

It has low bioconcentration potential.

BCF 2 (value calculated based on log kow of 1.25).

DICHLOROMETHANE

Partition coefficient: n-octanol/water 1,25 BCF 2

## 12.4. Mobility in soil

## DICHLOROMETHANE

Very high mobility on the ground (based on an estimated Koc of 24).

Volatilization is expected from moist soil surfaces (based on Henry's constant) and dry soil (based on the vapor pressure value)

Quickly volatilizes from aqueous surfaces.

In water, it is not expected to adsorb to sediment and suspended solids (based on Koc).

Expected to biodegrade in soil (based on studies with activated sludge) (HSDB 2014)



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## 12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

### 12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

#### 12.7. Other adverse effects

#### DICHLOROMETHANE

Study according to [OECD TG 209] on activated sludge EC50-40 min: 2590 mg / I (OECD SIDS 2011)

Dichloromethane is not a precursor to tropospheric ozone based on the Photochemical Ozone Creation Potential (POCP) of 0.009 (OECD SIDS 2011).

## **SECTION 13. Disposal considerations**

#### 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## **SECTION 14. Transport information**

## 14.1. UN number or ID number

ADR / RID, IMDG, IATA: 1950

## 14.2. UN proper shipping name

ADR / RID: AEROSOLS IMDG: AEROSOLS

IATA: AEROSOLS, NON-FLAMMABLE, CONTAINING SUBSTANCE IN DIVISION 6.1

#### 14.3. Transport hazard class(es)

ADR / RID: Class: 2 Label: 2.2 (6.1)

IMDG: Class: 2 Label: 2.2 (6.1)

IATA: Class: 2 Label: 2.2 (6.1)







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14.4. Packing group

ADR / RID, IMDG, IATA:

14.5. Environmental hazards

ADR / RID: IMDG: NO IATA: NO

14.6. Special precautions for user

ADR / RID: HIN - Kemler: --Limited

Tunnel Quantities: restriction

Packaging

203

203

instructions:

0,12 L code: (D)

Special provision: -

EMS: F-D, S-U IMDG: Limited

Quantities:

Pass.:

Maximum

0,12 L IATA: Cargo:

quantity: 150

Kg

Maximum Packaging quantity: 75 instructions:

. Kg A145, A167, Special provision:

A802

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

## **SECTION 15. Regulatory information**

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

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Contained substance

Point 59-75 DICHLOROMETHANE REACH Reg.:

01-2119480404-41

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)



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On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)

WGK 2: Hazard to waters

## 15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances

DICHLOROMETHANE

## **SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Aerosol 3 Aerosol, category 3

Carc. 2 Carcinogenicity, category 2

Eye Irrit. 2 Eye irritation, category 2

Skin Irrit. 2 Skin irritation, category 2

STOT SE 3 Specific target organ toxicity - single exposure, category 3

H229 Pressurised container: may burst if heated.

H351 Suspected of causing cancer.
H319 Causes serious eye irritation.



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H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

#### LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

## GENERAL BIBLIOGRAPHY

- 1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
- 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
- 3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
- Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
- 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament

- 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
- 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
- 10. Regulation (EÚ) 2015/1221 (VII Atp. CLP) of the European Parliament
- 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
- 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
- 13. Regulation (EU) 2017/776 (X Atp. CLP)
- 14. Regulation (EU) 2018/669 (XI Atp. CLP)
- 15. Regulation (EU) 2019/521 (XII Atp. CLP)
- 16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
- 17. Regulation (EU) 2019/1148
- 18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
- 19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
- 20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
- 21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP) 22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
- The Merck Index. 10th Edition
- Handling Chemical Safety



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- INRS Fiche Toxicologique (toxicological sheet)
- Patty Industrial Hygiene and Toxicology
- N.I. Sax Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals Ministry of Health and ISS (Istituto Superiore di Sanità) Italy

#### Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

This document has been prepared by an SDS technician who has received appropriate training.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review: The following sections were modified: 01 / 02 / 03 / 08 / 09 / 11 / 12 / 15 / 16.