Safety Data Sheet
Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878
HYPER FOAM FIRE G
Date of first edition: 8/23/2023
Safety Data Sheet dated 16/05/2024
version 2

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

1.1. Product identifier

Mixture identification:

Trade name: HYPER FOAM FIRE G

Trade code: K50487

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

Recommended use: Polyurethane-sealant

Uses advised against: All uses other than recommended ones

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL France

25, avenue de l'Industrie - 69960 Corbas - France

Tel. +33 472 890 684

safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112 Kerakoll Italy - +39-0536-816511 Ireland Poison information centre: 01 809 2166 (Daily 8am-10pm) In case of emergency call 999 or 112 Malta In case of emergency call: +356 2395 2000 (24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Aerosols 1	Extremely flammable aerosol. Pressurized container: may burst if heated.
Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Resp. Sens. 1B	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1	May cause an allergic skin reaction.
Carc. 2	Suspected of causing cancer.
STOT SE 3	May cause respiratory irritation.
STOT RE 2	May cause damage to organs through prolonged or repeated exposure.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Regulation (EC) No 1272/2008 (CLP):

Hazard pictograms and Signal Word

Danger

Hazard statements

H222, H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

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.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

Contains

4,4' diphenylmethanediisocyanate, isomere,
homologe and mixtures

Special provisions according to Annex XVII of REACH and subsequent amendments:

Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used

As from 24 August 2023 adequate training is required before industrial or professional use.

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: HYPER FOAM FIRE G

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥20-<50 %	4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	CAS:9016-87-9	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Resp. Sens. 1B, H334; Skin Sens. 1, H317; Carc. 2, H351; STOT RE 2, H373; STOT SE 3, H335	
≥10-<20 %	Polymer with 2-butyne-1,4-diol and (chloromethyl-)oxirane, brominated, dehydrochlorinated, methoxylated	CAS:86675-46-9 EC:617-903-6	Acute Tox. 4, H302	01-2119972940-30
≥10-<20 %	Reaction products of phosphoryl trichloride and 2-methyloxirane	CAS:1244733-77-4 EC:807-935-0	Acute Tox. 4, H302; Aquatic Chronic 3, H412	01-2119486772-26
≥5-<10 %	Dimethyl ether	CAS:115-10-6 EC:204-065-8	Flam. Gas 1, H220; Press. Gas, H280	01-2119472128-37
≥1-<3 %	triethyl phosphate	CAS:78-40-0 EC:201-114-5 Index:015-013-00-7	Acute Tox. 4, H302; Eye Irrit. 2, H319	01-2119492852-28

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

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 thoroughly the body (shower or bath).

Remove contaminated clothing immediatley and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

In case of inhalation, consult a doctor immediately and show him packing or label.

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

CO_2 or Dry chemical fire extinguisher.

Extinguishing media which must not be used for safety reasons:

Water.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not use on extensive surface areas in premises where there are occupants.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

7.2. Conditions for safe storage, including any incompatibilities

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F. Store in closed containers and in a well-ventilated place

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures CAS: 9016-87-9	NATIONAL	GERMANY	Long Term: 0.05 mg/m3 DFG, H, Sah, Y, 12, E, 1;=2=(I) Source: TRGS 900
	NATIONAL	SLOVENIA	Long Term: 0.05 mg/m3; Short Term: 0.05 mg/m3 K, Y, (I), R2 Source: UL št. 72, 11. 5. 2021
Dimethyl ether CAS: 115-10-6	EU		Long Term: 1920 mg/m3 - 1000 ppm (8h)
	NATIONAL	AUSTRIA	Long Term: 1910 mg/m3 - 1000 ppm; Short Term: Ceiling - 3820 mg/m3 - 2000 ppm 60(Mow), 3x, MAK Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA	Long Term: 1920 mg/m3 - 1000 ppm Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	CZECHIA	Long Term: 1000 mg/m3; Short Term: Ceiling - 2000 mg/m3 Source: Nařízení vlády č. 361-2007 Sb
	NATIONAL	DENMARK	Long Term: 1920 mg/m3 - 1000 ppm E Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 1920 mg/m3 - 1000 ppm Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FINLAND	Long Term: 2000 mg/m3 - 1000 ppm Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 1920 mg/m3 - 1000 ppm Source: INRS outil65, arrêté du 30-06-2004 modifié
	NATIONAL	GREECE	Long Term: 1920 mg/m3 - 1000 ppm Source: ΦΕΚ 227/Α` 9.10.2001
	NATIONAL	HUNGARY	Long Term: 1920 mg/m3 EU1, N Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	LITHUANIA	Long Term: 1920 mg/m3 - 1000 ppm; Short Term: 2280 mg/m3 - 1500 ppm Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	NETHERLANDS	Long Term: 950 mg/m3; Short Term: 1500 mg/m3 Source: Arbeidsomstandighedenregeling - Lijst A
	NATIONAL	NORWAY	Long Term: 384 mg/m3 - 200 ppm

		E Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 1000 mg/m3 Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 1920 mg/m3 - 1000 ppm Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 950 mg/m3 - 500 ppm; Short Term: 1500 mg/m3 - 800 ppm V Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 1910 mg/m3 - 1000 ppm Formel / Formal Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 766 mg/m3 - 400 ppm; Short Term: 958 mg/m3 - 500 ppm Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	BELGIUM	Long Term: 1920 mg/m3 - 1000 ppm Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	CROATIA	Long Term: 1920 mg/m3 - 1000 ppm Source: 2000/39/EZ
NATIONAL	CYPRUS	Long Term: 1920 mg/m3 - 1000 ppm Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
NATIONAL	GERMANY	Long Term: 1900 mg/m3 - 1000 ppm DFG, EU, 8(II) Source: TRGS 900
NATIONAL	IRELAND	Long Term: 1920 mg/m3 - 1000 ppm IOELV Source: 2021 Code of Practice
NATIONAL	ITALY	Long Term: 1920 mg/m3 - 1000 ppm Source: D.lgs. 81/2008, Allegato XXXVIII
NATIONAL	LATVIA	Long Term: 1920 mg/m3 - 1000 ppm Source: KN325P1
NATIONAL	LUXEMBOURG	Long Term: 1920 mg/m3 - 1000 ppm Source: Mémorial A n.226 du 22 mars 2021
NATIONAL	MALTA	Long Term: 1920 mg/m3 - 1000 ppm Source: S.L.424.24
NATIONAL	PORTUGAL	Long Term: 1920 mg/m3 - 1000 ppm Source: Decreto-Lei n.º 1/2021
NATIONAL	ROMANIA	Long Term: 1920 mg/m3 - 1000 ppm Dir. 2000/39 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 1920 mg/m3 - 1000 ppm; Short Term: 15360 mg/m3 - 8000 ppm EU1 Source: UL št. 72, 11. 5. 2021
NATIONAL	SPAIN	Long Term: 1920 mg/m3 - 1000 ppm VLI Source: LEP 2022

Predicted No Effect Concentration (PNEC) values

Polymer with 2-butyne-1,4-diol and (chloromethyl-)oxirane, brominated, dehydrochlorinated, methoxylated CAS: 86675-46-9	Exposure Route: Fresh Water; PNEC Limit: 1 mg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 10 mg/l

	Exposure Route: Marine water; PNEC Limit: 100 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 1 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 37.5 mg/kg
	Exposure Route: Marine water; PNEC Limit: 3.75 mg/kg
triethyl phosphate CAS: 78-40-0	Exposure Route: Fresh Water; PNEC Limit: 632 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 9 mg/l
	Exposure Route: Marine water; PNEC Limit: 63.2 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 298.5 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 5 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 500 µg/kg
	Exposure Route: Soil; PNEC Limit: 640 µg/kg

Derived No Effect Level (DNEL) values

Polymer with 2-butyne-1,4-diol and (chloromethyl-)oxirane, brominated, dehydrochlorinated, methoxylated CAS: 86675-46-9	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 6.03 mg/m³; Consumer: 1.07 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Consumer: 3.2 mg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 1.05 mg/kg; Consumer: 750 µg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Consumer: 2.25 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 750 µg/kg
triethyl phosphate CAS: 78-40-0	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 9.9 mg/m³; Consumer: 1.74 mg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 2 mg/kg; Consumer: 1 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 1 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects Consumer: 5 mg/kg

8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing. Safety shoes.

Protection for hands:

When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent of the specific composition of the material a glove is fabricated from. The thickness of the glove must depending on model and type of material, generally be more than 0,35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0,35 mm. Other glove materials with a thickness of less than 0,35 mm may offer sufficient protection when only brief contact is expected. Suitable materials for safety gloves; EN 374:

Polychloroprene - CR: thickness ≥0,5mm; breakthrough time ≥480min.

Nitrile rubber - NBR: thickness ≥0,35mm; breakthrough time ≥480min.

Butyl rubber - IIR: thickness ≥0,5mm; breakthrough time ≥480min.

Fluorinated rubber - FKM: thickness ≥0,4mm; breakthrough time ≥480min.

Respiratory protection:

Gas filter and particle filter P2 . Gas filter type A

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Colour: Pink

Odour: N.A.

Odour threshold: N.A.

pH: Not Relevant

Kinematic viscosity: N.A.

Melting point/freezing point: N.A.

Boiling point or initial boiling point and boiling range: -12 °C (10 °F)

Flash point: > 93°C

Lower and upper explosion limit: N.A.

Relative vapour density: N.A.

Vapour pressure: 300.00 kPa

Density and/or relative density: 1,101.00 kg/m3

Solubility in water: N.A.

Solubility in oil: N.A.

Partition coefficient n-octanol/water (log value): N.A.

Auto-ignition temperature: 460.00 °C

Decomposition temperature: N.A.

Flammability: N.A.

Volatile Organic compounds - VOCs = 11.27 % ; 124.08 g/l

Particle characteristics:

Particle size: N.A.

9.2. Other information

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological Information of the Preparation

a) acute toxicity	Not classified
	Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin Irrit. 2(H315)
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	The product is classified: Resp. Sens. 1B(H334), Skin Sens. 1(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	The product is classified: Carc. 2(H351)
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met

h) STOT-single exposure	The product is classified: STOT SE 3(H335)
i) STOT-repeated exposure	The product is classified: STOT RE 2(H373)
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	a) acute toxicity	LC50 Inhalation Mist Rat = 1.5 mg/l 4h
		ATE Aerosol inhalation = 11 mg/kg
		LC50 Inhalation Vapour Rat = 15 mg/l
Polymer with 2-butyne-1,4-diol and (chloromethyl-)oxirane, brominated, dehydrochlorinated, methoxylated	a) acute toxicity	LD50 Oral Rat = 917 mg/kg
		LD50 Skin Rat > 2000 mg/kg
		LC50 Inhalation Rat > 20 mg/l 4h
triethyl phosphate	a) acute toxicity	LC50 Inhalation Rat = 8.81 mg/l 4h

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

No data available for the product

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Polymer with 2-butyne-1,4-diol and (chloromethyl-)oxirane, brominated, dehydrochlorinated, methoxylated	CAS: 86675-46-9 - EINECS: 617-903-6	a) Aquatic acute toxicity : LC50 Fish = 1 g/L
triethyl phosphate	CAS: 78-40-0 - EINECS: 201-114-5 - INDEX: 015-013-00-7	a) Aquatic acute toxicity : LC50 Fish <= 2400 mg/L 96h
		a) Aquatic acute toxicity : LC50 Daphnia = 100 mg/L 96h

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration >= 0.1%

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force. Disposal through discharge into wastewater is not permitted

A waste code according to the European List of Wastes (LoW) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

The product disposed of as such, pursuant to Regulation (EU) 1357/2014, must be classified as hazardous waste

SECTION 14: Transport information

14.1. UN number or ID number

1950

14.2. UN proper shipping name

ADR-Shipping Name: AEROSOLS, flammable

IATA-Technical name: AEROSOLS, FLAMMABLE

IMDG-Technical name: AEROSOLS

14.3. Transport hazard class(es)

ADR-Class: 2

IATA-Class: 2.1

IMDG-Class: 2

14.4. Packing group

IATA-Packing group: -

IMDG-Packing group: -

14.5. Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: F-D, S-U

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 2.1

ADR - Hazard identification number: -

ADR-Special Provisions: 190 327 344 625

ADR-Transport category (Tunnel restriction code): 2 (D)

ADR Limited Quantities: 1 L

ADR Excepted Quantities: E0

Air (IATA):

IATA-Passenger Aircraft: 203

IATA-Cargo Aircraft: 203

IATA-Label: 2.1

IATA-Subsidiary hazards: -

IATA-Erg: 10L

IATA-Special Provisions: A145 A167 A802

Sea (IMDG):

IMDG-Stowage Code: SW1 SW22

IMDG-Stowage Note: SG69

IMDG-Subsidiary hazards: See SP63

IMDG-Special Provisions: 63 190 277 327 344 381 959

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)
Regulation (EU) n. 2021/849 (ATP 17 CLP)
Regulation (EU) n. 2022/692 (ATP 18 CLP)
Regulation (EU) n. 2020/878
Regulation (EC) nr 648/2004 (Detergents).

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3, 40

Restrictions related to the substances contained: 74, 75

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
Product belongs to category: P3a	150	500

Explosives precursors – Regulation 2019/1148

No substances listed

Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

German Water Hazard Class.

3: Severe hazard to waters

German Lagerklasse according to TRGS 510:

LGK 2B

SVHC Substances:

No SVHC substances present in concentration >= 0.1%

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
H220	Extremely flammable gas.
H222, H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.2/1	Flam. Gas 1	Flammable gas, Category 1

2.3/1	Aerosols 1	Aerosol, Category 1
2.5	Press. Gas	Gases under pressure
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.1/1B	Resp. Sens. 1B	Respiratory Sensitisation, Category 1B
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.6/2	Carc. 2	Carcinogenicity, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Aerosols 1, H222+H229	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Resp. Sens. 1B, H334	Calculation method
Skin Sens. 1, H317	Calculation method
Carc. 2, H351	Calculation method
STOT SE 3, H335	Calculation method
STOT RE 2, H373	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: Keep Away From Heat
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- SECTION 3: Composition/information on ingredients
- SECTION 5: Firefighting measures
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 12: Ecological information
- SECTION 13: Disposal considerations
- SECTION 14: Transport information
- SECTION 15: Regulatory information