

**2010SECTION 1: SUBSTANCE/MIXTURE IDENTIFICATION AND MANUFACTURER/SUPPLIER IDENTIFICATION****1.1. Product identification:****BRAKE CALIPER PAINT - SPRAY****1.2. Relevant identified uses of the substance or mixture and uses advised against**

Identified uses: spraying various types of surfaces.

Uses advised against: not specified.

**1.3. Data of the safety data sheet supplier****Przedsiębiorstwo RANAL Sp. z o.o.**

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**1.4. Emergency telephone**

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**SECTION 2: HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) no 1272/2008:

Aerosol 1	H222-H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
Asp. Tox. 1	H304*	May be fatal if swallowed and enters airways.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 1	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs: central nervous system, kidneys, liver through prolonged or repeated exposure.

**2.2. Label elements**

According to Regulation (EC) no 1272/2008.

Hazard pictograms and signal word:

Signal word: **Danger.**

Contains:

Acetone.

Xylene.

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurized container: may burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs: central nervous system, kidneys, liver through prolonged or repeated exposure.

\* Product labelling for this hazard is not required when placed on the market in aerosol cans.

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.
P271	Use only outdoors or in a well-ventilated area.
P333 + P313	If skin irritation or a rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists get medical advice/attention.

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P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C.  
P501 Hand over contents and container to an authorized waste recipient.

**2.3. Other hazards**

The product does not contain any components, which meet the PBT or vPvB criteria according to Annex XIII to the REACH Regulation.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1. Substances**

Not applicable.

**3.2. Mixtures**

Component name Registration number	% weight	CAS no	EC no	Index no	Classification according to Regulation 1272/2008
Hydrocarbons C <sub>3-4</sub> , petroleum gas * 01-2119486557-22-XXXX	25-45%	68476-40-4	270-681-9	649-19900-1	Flam. Gas 1, H220, Press. Gas, H280 * Product contains <0,1% 1,3 of butadiene, so it is not classified as mutagenic of category 1B and carcinogenic of category 1B (Note K). Product contains propane and butane, for which the highest permissible concentration in the work environment has been determined at the national level.
Acetone 01-2119471330-49-XXXX	20-30%	67-64-1	200-662-2	606-001-00-8	Flam. Liq. 2, H225, Eye Irrit. 2, H319, STOT SE 3, H336 EUH066 – additional hazard statement code. A substance with the highest permissible concentration in the work environment specified at national and EU level.
Xylene 01-2119488216-32-XXXX	15-19%	133020-7	215-535-7	601-02200-9	Flam. Liq. 3, H226, Asp. Tox. 1, H304, Acute Tox. 4, H312, Skin Irrit. 2, H315, Eye Irrit. 2, H319, Acute Tox. 4, H332, STOT SE 3, H335, STOT RE 2, H373 A substance with the highest permissible concentration in the work environment specified at national and EU level.
Ethylbenzene 01-2119486136-34-XXXX	< 5%	100-41-4	202-849-4	601-023-00-4	Flam. Liq. 2, H225, Asp. Tox. 1, H304, Acute Tox. 4, H332, STOT RE 2, H373 A substance with the highest permissible concentration in the work environment specified at national and EU level.
n-butyl acetate 01-2119485493-29-XXXX	< 5%	123-86-4	204-658-1	607-02500-1	Flam. Liq. 3, H226, STOT SE 3, H336 EUH066 – additional hazard statement code. A substance with the highest permissible concentration in the work environment specified at national and EU level.

Full text of H statements provided in section 16 of the Sheet.

**SECTION 4: FIRST AID MEASURES****4.1. Description of first aid measures**

In contact with skin:

Take off contaminated clothing immediately. After contact with skin, wash with plenty of water, then wash with plenty of soap and water. If disturbing symptoms occur, consult a doctor.

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In contact with eyes:

Consult an ophthalmologist if disturbing symptoms occur. Protect non-irritated eye, remove contact lenses. Flush eyes thoroughly with water for 10-15 minutes. Avoid strong water stream - risk of cornea damage.

In case of ingestion:

There is usually no exposure through this route. If swallowed, rinse mouth with water. Do not induce vomiting! Never give anything by mouth to an unconscious person. Consult a doctor and show the label.

After inhalation:

Move the victim to fresh air, keep him warm and calm. If necessary, perform artificial respiration or give oxygen. If disturbing symptoms appear, consult a doctor.

**4.2. Most important symptoms both acute and delayed**

In contact with skin:

Possible drying or cracking of the skin with repeated exposure, degreasing, frostbite when spraying the skin from a short distance, irritation.

In contact with eyes:

Redness, burning, tearing, irritation.

Inhalation:

May cause irritation of the respiratory mucosa, drowsiness and dizziness.

After swallowing:

May cause irritation of gastrointestinal mucosa, nausea, vomiting and risk of aspiration pneumonia.

Exposure effects:

May cause damage to organs: central nervous system, kidneys, liver through prolonged or repeated exposure.

**4.3. Indications of any immediate medical attention and special treatment needed**

The doctor decides about the procedure to be followed after a thorough assessment of the injured person's condition. Treat symptomatically.

**SECTION 5: FIREFIGHTING MEASURES****5.1. Extinguishing media**

Suitable extinguishing media: foam resistant to alcohol, carbon dioxide (CO<sub>2</sub>), extinguishing powder, water mist  
Extinguish a small fire with a carbon dioxide extinguisher (CO<sub>2</sub>) or dry powder (ABC or BC), extinguish a large fire with alcohol-resistant foam or dispersed water. Fight large fires from secured positions.

Unsuitable extinguishing media: strong water jet- risk of fire spreading.

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

In case of fire, harmful gases may be formed that contain carbon oxides and other unidentified thermal decomposition products. Avoid breathing combustion products as they can pose a health risk.

**5.3. Advice for firefighters**

General protective measures in the event of fire. Do not stay in the area endangered by fire without suitable clothing resistant to chemicals and breathing apparatus with independent air circulation.

Do not allow extinguishing water to enter sewage system, surface water or groundwater. Gas may accumulate near the ground and travel long distances, creating a risk of fire or explosion.

Cool endangered containers from a safe distance with a spray of water. Pressurized container - danger of unsealing or even explosion at high temperatures. Collect used extinguishing media.

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency measures**

Limit the access of bystanders to the area of failure until the end of the relevant cleaning operations. Ensure that failure recovery and its effects are performed only by trained personnel. In the event of large spills, isolate the affected area. Avoid contact with skin and eyes. Ensure adequate ventilation. Announce a ban on smoking, open flame and sparking tools. Use personal protection equipment. Do not breathe spray.

**6.2. Environmental precautions**

In case of release of larger quantities of the product prevent it from spreading in the wild. Notify appropriate emergency services.

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**6.3. Methods and materials for containment and cleaning up**

Collect damaged packaging mechanically. Collect spillage using non-combustible liquid absorbing materials (e.g. sand, earth, diatomaceous earth, vermiculite) and place in waste containers. Treat collected material as waste. Clean the contaminated place. Do not use sparking tools. Do not smoke.

**6.4. Reference to other sections**

Disposal considerations – see section 13 of the Sheet.

Personal protection measures– see section 8 of the Sheet.

**SECTION 7: HANDLING AND STORAGE OF SUBSTANCES AND MIXTURES**

**7.1. Precautions for safe handling**

Observe legal protection and safety regulations. Avoid contact with eyes and skin. Avoid breathing aerosol. Ensure adequate general and / or local ventilation. Eliminate sources of ignition - do not use open flame, do not smoke, do not use sparking tools and clothing made of fabrics susceptible to electrification; protect containers from overheating. Do not spray over open flame or glowing material. Prevent accumulation of electrostatic charges. Use personal protection equipment.

**7.2. Conditions for safe storage including any incompatibilities**

Store only in a dry and cool place. Recommended storage temperature up to + 35oC. Keep away from sources of ignition and heat. On the premises of the warehouse, it is forbidden to smoke, use open flames and sparking tools. Do not pierce or burn the packaging after use. Keep away from food, foodstuffs and animal feed. Avoid contact of the product with strong oxidizing agents (concentrated nitric acid, hydrogen peroxide, organic peroxides) - contact may cause ignition, and corrosive agents of steel (acids, salt solutions) - risk of damage to aerosol containers and release of the content.

**7.3. Special end use(s)**

No information about uses other than those mentioned in section 1.2.

**SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION MEASURES**

Maximum permissible concentration in the work environment:

Specification	MPC	MPIC	MPCC	PBC
butane [CAS 106-97-8]	1 900 mg/m <sup>3</sup>	3 000 mg/m <sup>3</sup>	—	—
propane [CAS 74-98-6]	1 800 mg/m <sup>3</sup>	—	—	—
acetone [CAS 67-64-1]	600 mg/m <sup>3</sup>	1 800 mg/m <sup>3</sup>	—	—
ethylbenzene [CAS 10041-4]	200 mg/m <sup>3</sup>	400 mg/m <sup>3</sup>	—	20 mg/h**
xylene [CAS 1330-20-7]	100 mg/m <sup>3</sup>	—	—	1.4 mg/l*
n-butyl acetate [CAS 123-86-4]	200 mg/m <sup>3</sup>	950 mg/m <sup>3</sup>	—	—

\* marked substance – methyl hippuric acid, biological material – urine.

\*\* marked substance – mandelic acid, biological material – urine.

Recommended monitoring procedures:

Procedures for monitoring the concentrations of hazardous components in the air and procedures for controlling air cleanliness in the workplace should be used - if they are available and justified at a given position - in accordance with relevant Polish or European Standards, taking into account the conditions prevailing at the place of exposure and appropriate measurement methodology adapted to the conditions work. The mode, type and frequency of tests and measurements should meet the requirements contained in applicable regulations.

PNEC values for the components:

PNEC	Acetone	n-butyl acetate
fresh water	10.6 mg/l	0.18 mg/m <sup>3</sup>
marine water	1.06 mg/l	0.018 mg/m <sup>3</sup>
intermittent release	21 mg/l	0.36 mg/m <sup>3</sup>
fresh water sediment	30.4 mg/kg TG	0.981 mg/kg d.m. of sediment
marine water sediment	3.04 mg/kg TG	0.0981 mg/kg d.m. of sediment
sewage treatment plants	29.5 mg/l <sup>3</sup>	—
soil	0.112 mg/kg TG	0.0903 mg/kg d.m. of soil

DNEL values for the components:

DNEL	Acetone	
	worker	consumer
inhalation, short-term exposure	2420 mg/m <sup>3</sup>	—

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inhalation, long-term exposure	1210 mg/m <sup>3</sup>	200 mg/m <sup>3</sup>
skin, long-term exposure	186 mg/kg KG./day	62 mg/kg KG/day
oral, long-term exposure	—	62 mg/kg KG/day

<b>DNEL</b>	<b>Xylene</b>	
	worker	consumer
inhalation, short-time exposure (local /systemic effects)	289 mg/m <sup>3</sup>	174 mg/m <sup>3</sup>
inhalation, long-term exposure (local/systemic effects)	77 mg/m <sup>3</sup>	14.8 mg/m <sup>3</sup>
skin, long-term effects (systemic effects)	180 mg/kg bw/day	108 mg/kg bw/day
oral, long-term exposure (systemic effects)	—	1.6 mg/kg bw/day

<b>DNEL</b>	<b>n butyl acetate</b>	
	worker	consumer
inhalation, short-term exposure (local/systemic effects)	960 mg/m <sup>3</sup>	859.7 mg/m <sup>3</sup>
inhalation, long-term exposure (local/systemic effects)	480 mg/m <sup>3</sup>	102.34 mg/m <sup>3</sup>

**8.2 Exposure control**

Observe general principles of safety and hygiene. Avoid contact with eyes and skin.

Take off contaminated clothes immediately. General and / or local ventilation should be provided in the workplace to maintain the concentration of harmful agents in the air below the permissible values. Do not eat, drink or smoke while working.

Wash hands carefully before breaks and after work. If during work processes there is a risk of ignition of clothes on the employee - emergency showers (safety showers) for washing the whole body and separate showers (eye showers) should be installed no more than 20 m in a horizontal line from the positions where these processes are carried out.

Hand protection:

Use protective gloves resistant to the product (e.g. butyl rubber). In case of short-term contact use protective gloves with a performance level of 2 or more (breakthrough time > 30 min.). In case of prolonged contact, use protective gloves with performance level 6 (breakthrough time > 480 min.). It is recommended to use a protective cream for exposed parts of the body.

When using protective gloves in contact with chemical products, it should be remembered that the given levels of effectiveness and the corresponding breakthrough times do not mean the actual duration of protection at a given workplace, because this protection is influenced by many factors, such as temperature, effects of other substances, etc. It is recommended to replace the gloves immediately if there is any sign of wear, damage or changes in appearance (colour, elasticity, shape). The manufacturer's instructions must be observed not only for the use of gloves, but also for cleaning, maintenance and storage. It is also important to remove the gloves correctly to avoid contaminating your hands when doing so.

Body protection:

Antistatic protective clothes made of dense fabric (preferably made of natural fiber, e.g. cotton). Safety footwear.

Eye protection:

Safety glasses in a sealed housing with side protection (frame made of plastic resistant to organic solvents).

Respiratory protection:

Under normal conditions of use it is not required. In case of insufficient ventilation, use an approved AX respirator. In case of work in a limited space, insufficient oxygen content in the air, high uncontrolled emission or other circumstances, when the mask with the absorber does not provide sufficient protection, use a self-contained breathing apparatus.

Personal protective equipment must comply with the requirements of the applicable national regulations as well as of the Regulation (EU) 2016/425. The employer is obliged to provide protection measures appropriate to the activities performed and meeting all quality requirements, including their maintenance and cleaning.

Environmental exposure control:

Avoid release to the environment, do not empty into drains. Possible emissions from ventilation systems and process equipment should be checked to determine their compliance with the requirements of environmental law.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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

Physical state	liquid in aerosol container
Colour	according to specification
Odour	characteristic
Odour threshold	not determined
pH value	not applicable
Melting/freezing point	not determined
Initial boiling point (1013 hPa)	-42°C to 142°C (propane, xylene respectively)
Flash point	-105°C (propane)
Evaporation rate	not determined
Flammability (solid, gas)	extremely flammable
Top/bottom explosion limit	9.6% vol./1.9 % vol. (for propellant)
Vapour pressure (20°C)	> 0.1 MPa (-15°C), < 2.55 MPa (70°C) – for propellant
Vapour density (air=1)	>1
Density	app. 0.7 g/cm <sup>3</sup>
Solubility	0.012 kg/dm <sup>3</sup> in water, soluble in aliphatic hydrocarbons
n-octanol/water partition coefficient	not determined
Autoignition point	>287°C
Breakdown point	not determined
Explosive properties	forms explosive mixtures with air
Oxidizing properties	does not show
Dynamic viscosity	not determined

**9.2. Other information**

VOC content	<680 g/l
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**SECTION 10: STABILITY AND REACTIVITY**

**10.1. Reactivity**

Reactive product. See also subsections: 10.3-10.5.  
Vapours of the product may form explosive mixtures with air.

**10.2. Chemical stability**

Product stabile under normal conditions of storage and use.

**10.3. Possibility of hazardous reactions**

Unknown.

**10.4. Conditions to be avoided**

Avoid heat sources and direct sunlight, as well as temperatures exceeding 50°C.

**10.5. Incompatible materials**

Strong oxidants.

**10.6. Hazardous decomposition products**

Unknown.

**SECTION 11: TOXICOLOGICAL INFORMATION**

**11.1. Information on toxicological effects**

Toxicity of the components:

Acetone, CAS 67-64-1		
LD50:	5800 mg/kg	(oral) (experimental value)
LD50:	7400 mg/kg	(skin, rat) (experimental value)
Ethylbenzene, CAS 100-41-4		
LC50:	17,2 mg/l	(inhalation, rat)
Xylene, CAS 133020-7		
LD50:	5000 mg/kg	(oral, rat)
LC50:	1700 mg/kg	(skin, rabbit)
LC50:	4550 ppm/4h	(inhalation, rat)

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Toxicity of the mixture:

Acute toxicity:

ATEmix (skin) 8947 mg/kg

ATEmix (inhalation) 49.55 mg/l

Based on available data, the classification criteria are not met.

Caustic/irritating effect on skin:

Causes skin irritation.

Serious eye damage / eye irritation:

Causes eye irritation.

Respiratory or skin irritation:

Based on available data, the classification criteria are not met.

Mutagenic effect on germ cells:

Based on available data, the classification criteria are not met.

Carcinogenic effect:

Based on available data, the classification criteria are not met.

Harmful effect on reproduction:

Based on available data, the classification criteria are not met.

Toxic effect on target organs – single exposure:

May cause drowsiness or dizziness.

Toxic effect on target organs – repeated exposure:

May cause damage to organs: central nervous system, kidneys, liver through prolonged or repeated exposure.

Aspiration hazard:

The product contains components with low viscosity, classified as hazardous if swallowed. However, due to the form of the product, which prevents accidental ingestion, the whole product does not carry the risk of aspiration of the product into the lungs.

**SECTION 12: ECOLOGICAL INFORMATION**

**12.1. Toxicity**

Toxicity of the components:

Hydrocarbons C<sub>3-4</sub> [CAS 6847640-4]

Acute toxicity for fish	LC50	>24.11 mg/l	96 h	<i>Oncorhynchus mykiss</i>
Acute toxicity for daphnia	EC50	>14.22 mg/l	48 h	<i>Daphnia magna</i>
Acute toxicity for algae	EC50	>7.71 mg/l	72 h	<i>Pseudokirchneriella subcapitata</i>

Acetone [CAS 67-64-1]

Acute toxicity for fish	LC50	5540 mg/l	96 h	<i>Oncorhynchus mykiss</i>
	LC50	11000 mg/l	96 h	<i>Alburnus alburnus</i>
Acute toxicity for daphnia	EC50	8800 mg/l	48 h	<i>Daphnia pulex</i>
	EC50	2100 mg/l	24 h	<i>Artemisia salina</i>
Acute toxicity for algae	NOEC	530 mg/l	8 h	<i>Microcystis aeruginosa</i>
	NOEC	430 mg/l	96 h	<i>Prorocentrum minimum</i>
Acute toxicity for bacteria	EC12	1000 mg/l	30 min.	activated sludge

Xylene [CAS 1330-20-7]

Acute toxicity for daphnia	EC50	7.4 mg/l	48 h	<i>Daphnia magna</i>
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Toxicity of the mixture:

The product is not classified as environmentally hazardous.

**12.2. Persistence and degradability**

Unknown.

**12.3. Bioaccumulative potential**

Unknown.

**BRAKE CALIPER PAINT – SPRAY****12.4. Mobility in soil**

Gas components quickly spread in the air. The mobility of the components of the mixture depends on their hydrophilic and hydrophobic properties as well as the abiotic and biotic conditions of the soil, including its structure, climatic conditions, season and soil organisms.

**12.5. Results of PBT and vPvB assessment**

The product does not contain components that meet the criteria of PBT or vPvB.

**12.6. Other hazardous effects**

The mixture is not classified as hazardous to the ozone layer. The possibility of other harmful effects of the individual components of the mixture on the environment should be considered (e.g. ability to interfere with hormonal balance, impact on global warming).

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1. Waste treatment methods**

Recommendations related to the mixture:

Do not empty into drains. Dispose of in accordance with applicable regulations. Do not remove the product from the packaging.

Proposed waste code: 16 03 05 \* Organic wastes containing dangerous substances.

The waste code should be given at the place of its production.

Recommendations related to used packaging:

The classification of this waste meets the requirements for hazardous waste. Hand the packaging over to an authorized company. Do not mix with other waste. Do not burn or pierce empty packaging.

EU legal acts: Directives of the European Parliament and of the Council: 2008/98 / EC and 94/62 / EC.

**SECTION 14: TRANSPORT INFORMATION**

The product is subject to the regulations on the transport of dangerous goods contained in:

ADR (road transport), RID (rail transport), ADN (inland waterway transport), IMDG (sea transport), ICAO / IATA (air transport).

**14.1. UN number**

UN 1950

**14.2. UN proper shipping name**

AEROSOLS, flammable

**14.3. Transport hazard class(-es)**

2

Warning label No 2.1

**14.4. Packaging group**

Not applicable. Limited quantities 1l (LQ2).

**14.5. Environmental hazard**

The mixture is not hazardous to the environment according to the criteria contained in transport regulations.

**14.6. Special precautions for users**

Avoid sources of ignition and fire. Packages should not be thrown or subjected to impact. Cans should be placed on the vehicle or container in a way that prevents them from falling over or falling off.

EMS code: F-D, S-U (according to IMDG code for sea transport).

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 Convention and the IBC Code**

Not applicable.

**SECTION 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations / legislations specific for the substance or mixture**

- Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency.
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Official Journal of the EU L335/1 of 31 December 2008).
- Regulation (EC) No 273/2004 of the European Parliament and of the Council of 11 February 2004 on drug precursors.



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- Council Regulation (EC) No 111/2005 of 22 December 2004 laying down rules for the monitoring of trade between the Community and third countries in drug precursors.
- Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents.
- Commission Regulation (EC) No 907/2006 of 20 June 2006 amending Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents, in order to adapt Annexes III and VII thereto.

**15.2. Chemical safety assessment**

Chemical safety assessment is not required for the mixture.

**SECTION 16: OTHER INFORMATION**

**Full text of h phrases mentioned in sections 2-15 of the Sheet:**

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs: central nervous system, liver, kidneys through prolonged or repeated exposure.
EUH 066	Repeated exposure may cause skin dryness or cracking.

**Explanation of abbreviations and acronyms used in Material Safety Data Sheet:**

MPC	Maximum permissible concentration.
MPIC	Maximum permissible instantaneous concentration.
MPPC	Maximum permissible ceiling concentration.
PBC	Permissible concentration in biological material.
PBT	(Substance) Persistent, bioaccumulative and toxic.
vPvB	(Substance) Very persistent and very bioaccumulative.
PNEC	Predicted no-effect concentration.
DNEL	Derived no-effect level.
LD50	Lethal dose for 50% of the research population of animals.
LC50	Lethal concentration for 50% of the research population of animals.
ECX	The concentration at which X% reduction in growth or growth rate is observed.
LOEC	The lowest concentration producing an observable effect.
NOEL	The highest concentration of the substance at which no effects are observed.
RID	Regulations for the international carriage of dangerous goods by rail.
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road.
IMDG	International Maritime Dangerous Goods Code.
IATA	International Air Transport Association.
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials.
Flam. Gas 1	Flammable gas, cat. 1.
Press. Gas	Pressurized gas.
Eye Irrit. 2	Eye irritation, cat. 2.
Skin Irrit. 2	Skin irritation, cat. 2.
Flam. Liq. 2, 3	Flammable liquid, cat. 2, 3.
STOT RE 2	Toxic effect on target organs – repeated exposure, cat. 2.
STOT SE 3	Toxic effect on target organs - single exposure, cat. 3.
Asp Tox. 1	Aspiration toxicity, cat. 1.
Acute Tox. 4	Acute toxicity, cat. 4.

**Training:**

Before working with the product, the user should read the health and safety rules regarding handling chemicals, and in particular undergo appropriate workplace training. Persons associated with the transport of hazardous materials under the ADR Agreement should be properly trained in the scope of their duties (general, on-the-job and safety training).

**References to key literature and data sources**

This Material Safety Data Sheet has been developed based on the characteristics of individual components, manufacturer's data, literature data, online databases and possessed knowledge and experience, taking into account the currently applicable legal provisions.

Classification and procedures used to classify the mixture according to Regulation (EC) 1272/2008 (CLP) with following amendments	
Aerosol 1 H222-H229	Based on research results
Asp. Tox. 1 H304	Calculation method
Skin Irrit. 2 H315	Calculation method
Eye Irrit. 2 H319	Calculation method

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STOT SE 3 H336

Calculation method

STOT RE 2 H373

Calculation method

Classification of mixtures and assessment method used according to Regulation (EC) No 1272/2008 [CLP]:

Physical hazards: Flash point (°C).

Health hazards: Calculation method.

Environmental hazards: Calculation method.

**Information for the reader:**

The user is responsible for taking all the necessary steps to comply with national law. The information contained in the above sheet describes the product's safety requirements. The user is solely responsible for determining the suitability of the product for specific purposes. The data contained in this data sheet does not constitute a safety assessment of the user's workplace. The safety data sheet cannot be considered as a guarantee of product properties.

This safety data sheet is based on the material safety data sheets provided by the manufacturer and / or online databases as well as applicable regulations on hazardous substances and chemical mixtures.

Changes in the sheet compared to the previous version: none.

The above information is based on currently available data characterizing the product as well as experience and knowledge possessed by the manufacturer in this respect. They do not constitute a quality description of the product or promise of specific properties. They should be treated as an aid for safe handling during transport, storage and use of the product. This does not release the user from liability for the incorrect use of the above information and from compliance with all legal standards in this area.

Sheet number: 070P8L2019V1