



MATERIAL SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) and
Regulation (EC) No 1272/2008 (CLP)

Date of issue:	16. 12. 2016	Page: 1 / 8
Revision date:	5. 5. 2017	
Product name:	Efficient fire extinguisher	

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1	Product identifier	
	Trade name:	Efficient fire extinguisher.
	Substance/mixture:	Mixture.
1.2	Product Use:	
	Recommended use	Foam extinguishing agent.
	Restrictions of use	It must not be used for other purposes than those referred in section 1.
1.3	Details of the supplier of the safety data sheet:	
	<i>Manufacturer identification:</i>	
	Company name:	NANO TECHNOLOGI CZ s.r.o.
	Address:	Václavské náměstí 808/66 110 00 Praha 1 Czech Republic
	Telephone:	+420 491470662
	Fax:	+420 491470668
	E-mail:	paar@nanotechnologi.com
	Web:	www.nanotechnologi.com
	Information about MSDS:	paar@nanotechnologi.com
1.4	Emergency telephone number:	Toxicological information centre, Na Bojišti 1, 128 08 Praha 2, tel: (24 hours/day) +420 2 2491 9293, +420 2 2491 5402.

SECTION 2 - HAZARDS IDENTIFICATION

2.1	Classification of the substance or mixture	Classification of the mixture accordance to the Regulation (EC) No 1272/2008. The mixture is classified as dangerous. Aerosol 3, H229 Full text of all classifications and H-phrases is given in the section 16.
	The most important adverse physicochemical effects:	Pressurized container: May burst if heated.
	The most important adverse effects on human health:	Unknown.
	The most important adverse environmental effects:	Unknown.
2.2	Label elements:	
	Hazards pictograms:	Not defined.
	Signal word:	Warning.
	Hazard statements:	H229: Pressurized container: May burst if heated.
	Precautionary statements:	P101: If medical advice is needed, have product container or label at hand. P102: Keep out of reach of children. P103: Read label before use.



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		<p>P210: Keep away from hot surfaces. No smoking.</p> <p>P250: Do not subject to grinding/shock/friction.</p> <p>P251: Do not pierce or burn, even after use.</p> <p>P262: Do not get in eyes, on skin, or on clothing.</p> <p>P270: Do not eat, drink or smoke when using this product.</p> <p>P314: Get medical advice/attention if you feel unwell.</p> <p>P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P302+352: IF ON SKIN: Wash with plenty of water.</p> <p>P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.</p> <p>P410+412: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.</p>
2.3	Other hazards:	The mixture does not contain any substance that meets the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

3.2	Chemical characteristics:	The composition of this mixture is patented, the mixture does not contain substances classified as dangerous. Non ionic surfactant. Extinguishing spray does not contain PFOS (perfluorooctanoic sulfonate), PFOA (perfluorooctanoic acid), hazardous decomposition products, carcinogens, suspected substances or ingredients harmful to the environment. Extinguishing spray is not a synthetic. It has almost neutral pH and it contains no toxic substances or harmful surfactants. It is a mixture of surfactants and film-forming surfactants, which make a water film on the surface of flammable hydrocarbons. The product is made exclusively from natural resources, so it makes no harm to the environment. Product is in conformity with the essential requirements of Government regulation No.173/1997Sb., as amended, as these technical regulations: EN 1568-3 (heavy foam). Extinguishing spray is spray that is used to extinguish fire of class A and class B (water-immiscible liquids). It is extinguishing agent of I – C category.
	Mixture contents these hazardous substances an substances with the highest permissible concentration in the working environment:	None.

SECTION 4 - FIRST AID MEASURES

4.1	Description of first aid measures:	If not feeling well or in doubt, seek medical advice. Have product container or label at hand. Provide information from this safety datasheet.
	Inhalation:	Provide fresh air. Keep the person warm and resting. When respiratory problems occur, when symptoms persist and in all cases of doubt seek



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		medical advice.
	Skin contact:	Take off contaminated clothing. Rinse skin immediately with soap and water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.
	Eye contact:	Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes. Provide medical treatment, specialized if possible. Note: If the product sticks to the skin of the eyelids and cannot be removed using water, do not use force and leave for specialized treatment.
	Ingestion :	Keep the person resting. Rinse mouth with water (give 2 glasses of water to drink). Do not induce vomiting. Contact medical service. Bring the original cover or the material safety data sheet.

4.2 Most important symptoms and effects, both acute and delayed

	Inhalation:	The mixture can cause irritation of airways and respiratory mucous membranes, or an unpleasant feeling in nose and throat.
	Skin contact:	Prolonged and repeated contact may cause skin dryness and cracking.
	Eye contact:	Splashes in the eye may cause irritation.
	Ingestion :	May cause discomfort if swallowed. May cause irritation, dizziness, vomiting, diarrhoea and abdominal pain.

4.3	Indication of any immediate medical attention and special treatment needed:	Symptomatic treatment.
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SECTION 5 -FIREFIGHT MEASURES

5.1	Extinguishing media:	
	Suitable extinguishing media:	The product is an extinguishing agent.
	Non-suitable extinguishing media:	Not defined.
5.2	Special hazards arising from the substance or mixture:	Not defined.
5.3	Advice for firefighters:	Not defined.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1	Personal precautions, protective equipment and emergency procedures:	Avoid inhalation and contact with eyes. Follow the instructions in sections 7 and 8 of this safety data sheet.
6.2	Environmental precautions:	Not defined.
6.3	Methods and material for containment and cleaning up:	After removal of the mixture, wash the contaminated site with plenty of water.
6.4	Reference to other sections:	Follow the instructions in sections 7, 8 and 13 of this safety data sheet.

SECTION 7 – HANDLING AND STORAGE

7.1	Precautions for safe handling:	Do not expose to direct sunlight for a longer period. Do not throw to fire, even after use. Do not eat or drink while using. Avoid contact with eyes and skin. Use personal protective equipment as defined in section 8. Observe valid legal regulations laying down safety and health protection. Use at temperatures from -15 to 65 °C.
7.2	Conditions for safe storage, including	Maximum storage temperature: 65 °C



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	any incompatibilities:	Minimum storage temperature: -15 °C Protect from direct sunlight. Store in cold, dry and well ventilated areas designed for this purpose. Shelf life: 10 years.
7.3	Specific end use(s):	Observe information about the intended use supplied by the manufacturer.

SECTION 8 - EXPOSURE CONTROL/ PERSONAL PROTECTION

8.1	Control parameters:	None.
8.2	Exposure controls:	Follow common principles of health protection.
	Eye and face protection:	Avoid eye contact. Use protective glasses. In the event of fire it is recommended to use the evacuation mask first.
	Skin protection:	Contaminated skin should be washed thoroughly.
	Respiratory protection:	Not necessary.
	Thermal hazard:	Not available.
	Restriction of the environmental exposure:	Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1	Information on basic physical and chemical properties:	
	Appearance:	
	Physical state:	Liquid at 20 °C.
	Colour:	Yellow.
	Odour:	Pleasant.
	pH value:	7.35 – 7.55
	Melting point / melting range (°C):	-15 °C
	Boiling point / boiling range (°C):	100 °C
	Flash point (°C):	Data not available.
	Evaporation rate:	Data not available.
	Flammability:	Data not available.
	Explosion limit:	Data not available.
	Vapour pressure:	Data not available.
	Vapour density:	Data not available.
	Relative density:	Data not available.
	Solubility:	
	- in water:	Data not available.
	- in oil:	Data not available.
	- in organic solvents:	Data not available.
	Distributing coefficient n-octanol/water:	Data not available.
	Auto-ignition temperature:	Data not available.
	Decomposition temperature:	Data not available.
	Kinematic viscosity:	5.0 +/- 0.01 m ² /s
	Explosive properties:	Data not available.



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	Oxidizing properties:	Data not available.	
9.2	Other information:		
	Density:	1,041 g/cm ³	1,041 g
	Ignition temperature:	Data not available.	

SECTION 10 - STABILITY AND REACTIVITY

10.1	Reactivity	At normal conditions the mixture does not dangerously react with other substances.
10.2	Chemical stability:	Stable under normal conditions.
10.3	Possibility of hazardous reactions:	Protect against oxidizing agents.
10.4	Conditions to avoid:	Avoid long-term exposition to sunlight. Do not burn, even if empty. Do not pierce or damage the bottle.
10.5	Incompatible materials:	Protect against oxidizing agents.
10.6	Hazardous decomposition products:	Not defined.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1	Information on toxicological effects:	No data available.
	Acute toxicity:	LD ₅₀ , orally, rat (mg.kg ⁻¹):> 2000 mg/kg. Based on available data the classification criteria are not met.
	Irritating:	Based on available data the classification criteria are not met.
	Corrosivity	Based on available data the classification criteria are not met.
	Sensitization:	Based on available data the classification criteria are not met.
	Toxicity after repeated dose:	Based on available data the classification criteria are not met.
	Carcinogenicity:	Based on available data the classification criteria are not met.
	Mutagenicity:	Based on available data the classification criteria are not met.
	Reproductive toxicity:	Based on available data the classification criteria are not met.
	Information about probable ways of exposure:	<p><u>Eye contact:</u> May cause irritation.</p> <p><u>Skin contact:</u> No other effect than dryness are known after a short exposure.</p> <p><u>Inhalation:</u> If an unpleasant feeling in nose and throat occurs due to hot fumes, provide fresh air.</p> <p><u>Ingestion:</u> Can cause stomach problems, dizziness and diarrhoea.</p>

SECTION 12 - ECOLOGICAL INFORMATION

12.1	Toxicity:	There are no toxicological data available for the mixture.
12.2	Persistence and degradability:	The mixture is biodegradable.
12.3	Bioaccumulative potential:	Not available.



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12.4	Mobility in soil:	Not available.
12.5	Results of PBT and vPvB assessment:	The product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.
12.6	Other adverse effects:	Water hazard class: 1. (Self assessment)

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1	Waste treatment methods:	
	Dangerous treatment:	Do not burn or throw to fire, even if empty.
	Appropriate methods of disposal:	Hazard of environmental contamination; dispose in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to an authorized person for waste removal (specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.
	Legal regulations regarding waste:	Council Directive 75/442/EEC on waste, at amended. Decree No. 383/2001 Coll., on details regarding waste handling as amended. Decree No. 93/2006 Coll., (waste catalogue) as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

SECTION 14 – TRANSPORT INFORMATION

The product is not classified as dangerous in terms of shipping (ADR/RID, IMDG, ICAO/IATA).		
14.1	UN number:	Not subject to ADR.
14.2	UN proper shipping name:	Not available.
14.3	Transport hazard class:	Not available.
14.4	Packing group:	Not available.
14.5	Environmental hazards:	Not available.
14.6	Special precautions for user:	See sections 4 – 8.
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code :	Not available.

SECTION 15 – REGULATORY INFORMATION

15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture:	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 the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. 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, as amended.
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		The Act No. 350/2011 Coll. on Chemical Substances and Chemical Preparations as amended (the Chemical Act). The Act No. 258/2000 Coll., on Protection of Public Health as amended. Decree No. 361/2007 Coll., determining conditions of occupational health protection as amended. Decree No. 415/2012 Coll., on the permissible level of pollution and its determination an implementation of certain other provisions of the Air Protection Act as amended. The Act. No. 185/2001 Coll., on Waste and the Amendment of Some Other Acts as amended. The Act No. 201/2012 Coll., on the Protection of Atmosphere – Clean Air Act as amended. Decree No. 80/2014 Coll., amending the Decree No. 194/2001 Coll., laying down technical requirements for aerosol sprays as amended. Decree No. 432/2003 Coll., laying down conditions for assigning categories to individual jobs, limit values of indices from biological exposure tests, conditions for the sampling of biological materials for biological exposure and the particulars of the reports on work with asbestos and biological agents as amended.
15.2	Chemical safety assessment:	Not available.

SECTION 16 - OTHER INFORMATION

	A list of standard risk phrases used in the safety data sheet:	H229: Pressurized container: May burst if heated.
	Guidelines for safe handling used in the safety data sheet:	<p>P101: If medical advice is needed, have product container or label at hand.</p> <p>P102: Keep out of reach of children.</p> <p>P103: Read label before use.</p> <p>P210: Keep away from hot surfaces. No smoking.</p> <p>P250: Do not subject to grinding/shock/friction.</p> <p>P251: Do not pierce or burn, even after use.</p> <p>P262: Do not get in eyes, on skin, or on clothing.</p> <p>P270: Do not eat, drink or smoke when using this product.</p> <p>P314: Get medical advice/attention if you feel unwell.</p> <p>P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P302+352: IF ON SKIN: Wash with plenty of water.</p> <p>P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.</p> <p>P410+412: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.</p>
	Abbreviations used:	<p>ADR - Accord Dangereuses Route - European Agreement on international shipping of dangerous items</p> <p>CLP – Classification, labelling and packaging of substances and mixtures (EC) No. 1272/2008</p> <p>IATA – The International Air Transport Association</p> <p>ICAO - International Civil Aviation Organization</p>



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	<p>IMDG - International Maritime Dangerous Goods</p> <p>LD50 – Standard measure of the toxicity of a material that will kill half of the sample population</p> <p>PBT – Persistent, bioaccumulative and toxic substances</p> <p>REACH – Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No. 1907/2006</p> <p>RID - Regulations concerning the International Carriage of Dangerous Goods by Rail.</p> <p>vPvB – very persistent and very bioaccumulative</p>
Training guidelines:	Inform the user about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.
The changes:	This revision replaces the version of safety data sheet from 16. 12. 2016. Changes were made in sections 2, 12, 14, 15 and 16.
<p>Other important information:</p> <p>The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than stated in Section 1.</p> <p>The user is responsible for observing all applicable rules.</p> <p>Information in the safety certificate is compiled as correct and full in accordance with the best available knowledge. The information is compiled in good faith, but without guarantee. Various factors can influence the properties under specific conditions. It is responsibility of the product user to evaluate applicability of the information for each application.</p> <p>The producer shall not be liable or responsible for any loss or damage, whether direct, indirect, incidental, special or consequential arising out of the sale, use or misuse of the products, or the user's inability to use such products.</p>	