SECTION 1: SUBSTANCE/MIXTURE IDENTIFICATION AND MANUFACTURER/SUPPLIER IDENTIFICATION

1.1. Product identification
MAT ACRYLIC CLEAR COAT 2:1 HS
UFI: KHW0-003N-R00N-FJ6X *

1.2. Relevant identified uses of the substance or mixture and uses advised against
Component "A" of a two-component clear coat with a high solids content. For professional use.

1.3 Data of the safety data sheet supplier

Przedsiębiorstwo RANAL Sp. z o.o.
Ul. Łódzka 3
42-240 Rudniki k. Częstochowy, PL

Tel.: +48 34 329 45 03
Fax: +48 34 320 12 16
Registration number 000029202

Person responsible for the safety data sheet: ranal@ranal.pl

1.4. Emergency telephone
+48 34 329 45 03 (8.00 - 15.00)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
The product has been classified as hazardous according to current regulations.

EC Regulation 1272/2008(CLP):

Flam. Liq. 3	Flammable liquids, cat. 3; H226; Flammable liquid and vapour.
Skin Irrit. 2	Skin irritation, cat. 2; H315; Causes skin irritation.
Eye Irrit. 2	Eye irritation, cat. 2; H319; Causes eye irritation.
STOT SE 3	Specific target organ toxicity – single exposure, cat. 3, respiratory irritation; H335; May cause respiratory irritation.
STOT SE 3	Specific target organ toxicity – single exposure, cat. 3, narcotic effect; H336; May cause drowsiness or dizziness.
STOT RE 2	Specific target organ toxicity – repeated exposure, cat. 2; H373; May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

EC Regulation 1272/2008(CLP):

Pictograms:

GHS02 GHS07 GHS08
Signal word: **Warning.**

Hazard statements:
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:
Prevention:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist /vapours /spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Reaction:
P314 Get medical advice/attention if you feel unwell.

Storage:
P403+P235 Store in a well-ventilated place. Keep cool.

Disposal:
P501 Dispose of contents/container to: landfill for hazardous substances.

Additional information on the label*:
EUH066 Repeated exposure may cause skin dryness or cracking.

Substances relevant for classification:
Butyl acetate. Xylene
Contains methyl methacrylate. May cause an allergic reaction.*

2.3. Other hazards
No data.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances
Not applicable.

3.2. Mixtures

Description: A mixture of organic compounds with additives.

Substance name	Identification	Classification 1272/2008		% weight
Butyl acetate	CAS 123-86-4 Index 607-025-00- 1 EC 204-658-1 Registration no 01-2119485493-29-xxxx	Flam. Liq. 3, STOT SE 3, EUH066	H226, H336	30*- < 45
Xylene	CAS 1330-20-7 Index 215-535-7 EC 201-159-0 Registration no 01-2119539452-40-xxxx	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4 Skin Irrit. 2, Eye Irrit. 3, STOT SE 3, STOT RE 2, Asp. Tox. 1	H226, H312, H332, H315, H319, H335, H373, H304,	15*- < 20
Ethylbenzene	CAS 100-41-4 Index 202-849-4 EC 601-023-00-4 Registration no 01-2119489370-35-xxxx	Flam. Liq. 2, Acute Tox. 4, STOT RE 2, Asp. Tox. 1	H225, H332, H373, H304	<5
2-butoxyethyl acetate	CAS 112-07-2 Index 607-038-00- 2 EC 203-933-3 Registration no 01-2119475112-47-xxxx	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4	H302, H312, H332	<3
Methyl methacrylate	CAS 80-62-6 Index no - EC 203-625-9 Registration no 01-2119471310-51-xxxx	Flam. Liq. 2, STOT SE 3, Skin Irrit. 2 Skin Sens. 1 B	H225, H335, H315, H317	<0.4

More information on hazards and H-phrases provided in sections 16 of the MSDS.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Airways: Remove the injured person from the area of exposure, provide access to fresh air. In case of respiratory arrest perform artificial respiration. Provide medical aid if needed.

Ingestion: Rinse mouth with water. Do not give anything to an unconscious person to swallow. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call for medical help.

Contact with eyes: Remove contact lenses. Rinse with plenty of water with the eyelid held wide open, avoiding a strong water jet. If necessary consult an ophthalmologist.

Contact with skin: Take off contaminated clothes and shoes. Wash skin with plenty of water and soap. Seek medical attention if skin irritation occurs.

4.2. Most important symptoms both acute and delayed
High doses of vapours may cause: dizziness, drowsiness, headache, loss of consciousness. Contact with skin may cause its dryness and cracking.

4.3. Indications of any immediate medical attention and special treatment needed
Symptomatic treatment. First aiders should wear medical gloves.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: carbon dioxide CO_2, extinguishing powders, foam resistant to alcohol, water mist.
Unsuitable extinguishing media: full jet of water.

5.2. Special hazards arising from the substance or mixture
Flammable liquid and vapour. Combustion may form carbon oxides and other toxic gases. Vapours of the product form explosive mixtures with air.

5.3 Advice for fire fighters
Use self-contained breathing apparatus and full protective clothing. Tanks exposed to high temperature should be cooled with water from a safe distance and, if possible, removed from the endangered area.
Prevent fire-fighting water from entering surface water or groundwater.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency measures
Eliminate ignition sources. Avoid breathing vapour / mist / spray. Provide adequate ventilation. Avoid contamination of eyes, skin and clothing. Wear protective clothing and equipment. Hazardous area, vapours can move along the floor to distant sources of ignition and create a flashback hazard.

6.2. Environmental precautions
Prevent from entering sewage system, surface water, ground water and soil. In the event of serious contamination of a watercourse, sewage system or soil, notify the appropriate administrative and control authorities and rescue organizations.

6.3. Methods and materials for containment and cleaning up
Eliminate the source of the leak. Collect small spills with non-combustible absorbent material. Collect large spills mechanically. Collect contaminated soil.

6.4. Reference to other sections
Personal protection measures – see section 8 of the Sheet. Disposal considerations – see section 13 of the Sheet.

SECTION 7: HANDLING AND STORAGE OF SUBSTANCES AND MIXTURES

7.1. Precautions for safe handling
Avoid open flames and high temperature. Work in well-ventilated rooms. Do not breathe vapours or spray. Avoid contamination of eyes, skin and clothing. Do not eat or drink at the site where the product is used. Wash hands before each break and at the end of work. Observe the rules of personal hygiene.

7.2. Conditions for safe storage, including any incompatibilities
Store in tightly closed, original containers in a well-ventilated place at a temperature of 5-35°C Away from sources of fire and heat.

7.3. Special end use (s)
No data.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION MEASURES

8.1. Control parameters

Substance	CAS	MPC (mg/m^3)	MPIC (mg/m^3)	MPCC (mg/m^3)	Remarks: Labelling the substance with notation 'skin'*
Butyl acetate	123-86-4	240	720	-	-
Xylene	1330-20-7	100	200	-	Skin
Ethylbenzene	100-41-4	200	400	-	Skin
2-butoxyethyl acetate	112-07-2	100	300	-	Skin
Methyl methacrylate	80-62-6	100	300	-	-

*Labelling the substance with the notation "skin" means that the absorption of the substance through the skin may be just as important as for inhalation exposure.

CAS number:	Absorbed substance	Marked substance	Biological material	DSB values:
1330-20-7	Xylene	Methyl hippuric acid	urine*	0.75 g/g creatinine

*The sample is collected once, at the end of the daily exposure on any given day.

DNEL values:

Butyl acetate	DNEL values:	workers	Skin	long-term exposure	7 mg/kg b. w./day
	DNEL values:	workers	inhalation	long-term exposure	48 mg/m^3
	DNEL values:	consumers	Skin	long-term exposure	3.4 mg/kg b. w./day
	DNEL values:	consumers	inhalation	long-term exposure	12 mg/m^3
	DNEL values:	consumers	ingestion	long-term exposure	3.4 mg/kg b. w./day
Xylene	DNEL values:	workers	inhalation	acute exposure	443 mg/m^3
	DNEL values:	workers	Skin	long-term exposure	3182 mg/kg b. w./ kg
	DNEL values:	workers	inhalation	long-term exposure	221 mg/m^3
	DNEL values:	consumers	Skin	long-term exposure	1872 mg/kg b. w./day
	DNEL values:	consumers	inhalation	long-term exposure	65.3 mg/m^3
	DNEL values:	consumers	ingestion	long-term exposure	12.5 mg/kg b. w./day
Ethylbenzene	DNEL values:	workers	Skin	Long-term exposure	180 mg/kg b. w./day
	DNEL values:	workers	inhalation	acute exposure	289 mg/m^3
	DNEL values:	workers	inhalation	Long-term exposure	77 mg/m^3
	DNEL values:	consumers	Skin	Long-term exposure	108 mg/kg b. w./day
	DNEL values:	consumers	inhalation	acute exposure	174 mg/m^3
	DNEL values:	consumers	inhalation	Long-term exposure	14.8 mg/m^3
	DNEL values:	consumers	ingestion	Long-term exposure	1.6 mg/kg b. w./day
2-butoxyethyl acetate	DNEL values:	workers	Skin	long– term exposure - systemic effects	169 mg/kg
	DNEL values:	workers	inhalation	long– term exposure - systemic effects	133 mg/m^3
	DNEL values:	workers	Skin	acute exposure - systemic effects	120 mg/kg
	DNEL values:	workers	inhalation	acute exposure - local effects	333 mg/m^3
	DNEL values:	consumers	Skin	acute exposure - systemic effects	72 mg/kg
	DNEL values:	consumers	ingestion	acute exposure - systemic effects	36 mg/kg
	DNEL values:	consumers	inhalation	acute exposure - local effects	200 mg/m^3
	DNEL values:	consumers	Skin	long– term exposure - systemic effects	102 mg/kg
	DNEL values:	consumers	inhalation	long– term exposure - systemic effects	80 mg/m^3
	DNEL values:	consumers	ingestion	long– term exposure - systemic effects	8.6 mg/kg

Methyl methacrylate	DNEL values:	workers	inhalation	long-term exposure	208 mg/m^3
	DNEL values:	consumers	inhalation	long-term exposure	104 mg/m^3
	DNEL values:	workers	Skin	long-term exposure	13.67 mg/kg/day
	DNEL values:	consumers	Skin	long-term exposure	8.2 mg/kg/day
	DNEL values:	consumers	oral	long-term exposure	0.83 mg/kg/day
	DNEL values:	workers	Skin	long-term exposure	1.3 mg/kg/day
	DNEL values:	consumers	Skin	long-term exposure	0.83 mg/kg/day
	DNEL values:	workers	inhalation	long-term exposure	4.9 mg/m^3

PNEC values:

Butyl acetate	PNEC values:	fresh water	0.18 mg/l
	PNEC values:	sea water	0.018 mg/l
	PNEC values:	intermittent release	0.36 mg/l
	PNEC values:	biological sewage treatment plant	35.6 mg/l
	PNEC values:	Sediment (fresh water)	0.981 mg/kg
	PNEC values:	Sediment (sea water)	0.0981 mg/kg
	PNEC values:	soil	0.0903 mg/kg
Xylene	PNEC values:	fresh water	0.327 mg/l
	PNEC values:	sea water	0.327 mg/l
	PNEC values:	Sediment (fresh and sea water)	12.46 mg/kg
	PNEC values:	soil	2.31 mg/kg
	PNEC values:	sewage treatment plant	6.58 mg/l
Ethylbenzene	PNEC values:	sea water	0.01 mg/l
	PNEC values:	sewage treatment plant	9.6 mg/l
	PNEC values:	soil	2.68 mg/kg
2-butoxyethyl acetate	PNEC values:	fresh water	0.304 mg/l
	PNEC values:	sea water	0.0304 mg/l
	PNEC values:	intermittent release	0.56 mg/l
	PNEC values:	sewage treatment plant	90 mg/l
	PNEC values:	Sediment (fresh water)	2.03 mg/kg
	PNEC values:	Sediment (sea water)	0.203 mg/kg
	PNEC values:	soil	0.42 mg/kg
	PNEC values:	secondary poisoning	0.06 mg/kg
Methyl methacrylate	PNEC values:	sea water	0.94 mg/l
	PNEC values:	sewage treatment plant	10 mg/l
	PNEC values:	soil	1.47 mg/kg
	PNEC values:	sea water	0.482 mg/l
	PNEC values:	sewage treatment plant	10 mg/l
	PNEC values:	soil	0.476 mg/kg

8.2. Exposure control

Technical control measures:
General and local exhaust ventilation. Explosion-proof electrical installation.

Personal protection measures:

Eye or face protection*: Protective goggles / tight safety glasses.

Skin and hand protection*: Butyl rubber gloves resistant to chemicals (thickness 0.7 mm, penetration time > 480 min.). As the product is a mixture consisting of several substances, the resistance of the materials from which the gloves are made cannot be calculated in advance and should therefore be checked before use. Information about the penetration time of the substance should be obtained from the glove manufacturer.
Protective antistatic clothing and footwear.

Respiratory protection: With insufficient ventilation, a half mask with an organic vapour filter of type A or better (EN 140 or EN 141).*
Cutting, grinding or sanding items after curing may produce dust particles that may be inhaled.

Environmental control: Prevent the product from entering into sewage system, water and soil.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties*

Appearance: liquid
Colour: milky
Odour: characteristic
Melting /freezing point: no data available
Boiling point: 124°C *
Flammability of materials*: flammable liquid and vapour*
Explosion limits: Bottom 1.2 vol.%; top 15 vol.% (butyl acetate)
Flash point: 24°C *
Auto ignition point: no data available
Breakdown point: no data available
pH: no data available
Flow time (DIN 4; s) at 20℃ * not applicable
Solubility (in water): no data available
n-octanol/water partition coefficient: no data available*
Vapour pressure: 8 – 12 hPa at 20°C (butyl acetate)

Density:	app. 1.0 g/cm^3 at 20°C
Relative vapour density*:	no data available
Particles characteristics*:	no data available

9.2. Other information
No data.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
The product is not reactive under normal conditions.

10.2. Chemical stability
The product is stable under normal conditions.

10.3. Possibility of hazardous reactions
No data.

10.4. Conditions to be avoided
High temperatures, heat sources.

10.5 Incompatible materials
Avoid contact with strong oxidants, acids*

10.6. Hazardous decomposition products
As a result of thermal decomposition, carbon dioxide carbon monoxide and other toxic gases are generated.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on the hazard classes defined in Regulation (EC) No 1272/2008*
There are no experimental data on the toxicological properties of the product. The assessment was based on the data concerning the components included in the product.

Acute toxicity:

Xylene	LD_{50} (rat, oral)	> 2000 mg/kg
	LC_{50} (rat, inhalation)	> 20 mg/l/4h
	LD_{50} (skin, rabbit)	> 2000 mg/kg
Butyl acetate LD_{50} (rat, oral)	10760 mg/kg	
	LC_{50} (rat, inhalation)	23.4 mg/l/ h
	LD_{50} (rabbit, skin)	> 14000 mg/kg
Ethylbenzene	LD_{50} (rat, oral)	> 3500 mg/kg
	LC_{50} (rat, inhalation)	> 17.8 mg/l/4h*
	LD_{50} (skin)	> 15400 mg/kg
	TCL0 (human, inhalation)* 442 mg/m^3/8h	
2-butoxyethyl acetate LD_{50} (rat, oral)	1880 mg/kg*	
	LC_0 (rat, inhalation)	> 400 ppm/4h
	LD_{50} (rabbit, skin)	1500 mg/kg*
Methyl methacrylate	LD_{50} (rat, oral)	8400 mg/kg
	LD_{50} (rabbit, skin)	> 35000 mg/kg
	LC_{50} (rat, inhalation)	7093 mg/l/4h

ATE_{mix} (Oral, Skin) >2000 mg/kg body weight*
ATE_{mix} (inhalation) >20 mg/l*
The ATEmix values have been calculated using the appropriate conversion factor in Table 3.1.2. from Regulation 1272/2008/EC, as amended. *
The mixture is not classified as acute toxicity. No data confirming the hazard.*

Skin corrosion/irritation: The mixture is classified as causing skin irritation.
Serious eye damage/eye irritation: The mixture is classified as causing eye irritation.
Allergic effect on airways or skin: The mixture is not classified as causing skin sensitization. No data confirming the hazard.
Mutagenic effect on germ cells: The mixture is not classified as mutagenic. No data confirming the hazard.
Carcinogenic effect: The mixture is not classified as carcinogenic. No data confirming the hazard.
Harmful effect on reproduction: The mixture is not classified as having harmful effect on reproduction. No data confirming the hazard.
Specific target organ toxicity – single exposure: The mixture is classified as toxic to target organs – single exposure. May cause respiratory irritation. May cause drowsiness or dizziness. *
Specific target organ toxicity – repeated exposure: The mixture is classified as toxic to target organs – repeated exposure.
Aspiration hazard: The mixture is not classified as causing aspiration hazard. No data confirming the hazard.

11.2. Information on other hazards*
No data.

SECTION 12: ECOLOGICAL INFORMATION

There are no experimental data on the toxicological properties of the product. The assessment was based on the data concerning the components included in the product.

12.1. Toxicity

Butyl acetate	Toxicity to fish (Pimephales promelas)	LC50 18 mg/l /96 h
	Toxicity to fish (Leuciscus iduslas)*	LC50 60 mg/l /48 h
	Toxicity for invertebrates (Daphnia sp.)	EC50 44 mg/l /48 h
	Toxicity to algae (Scenedesmus subspicatus)*	IC50 675 mg/l /72 h
Xylene	acute toxicity to fish	LC50 2.6 mg/l /96 h
	acute toxicity to Daphnia (Daphnia magna)	EC50 1 mg/l /48 h
	acute toxicity to algae (stunted growth)	EC50 2.2 mg/l /72 h
	toxicity to microorganisms	NOEC 157 mg/l /3 h
	chronic toxicity to fish	NOEC >1.3 mg/l /56 days
	chronic toxicity to daphnia (Daphnia magna) 0.96 mg/l/7days	
ethylbenzene	toxicity to fish (Pimephales promelas)*	LC50 49 mg/l /96 h
	acute toxicity to aquatic invertebrates (Daphnia magna)*	EC50 184 mg/l /24 h
2-butoxyethyl acetate	acute toxicity to fish (Oncorhynchus mykiss)	LC50 >10-100 mg/l /96 h
	toxicity to daphnia and other aquatic invertebrates (Ceriodaphnia dubia)	EC10 30.4 mg/l /7 days
	toxicity to aquatic plants (Pseudokirchneriella subcapitata)	ErC50 1570 mg/l /72 h
	toxicity to aquatic plants (Pseudokirchneriella subcapitata)	EC0 300 mg/l /72 h
	toxicity to invertebrates (Pseudomonas putida)	EC10 720 mg/l /17 h
	toxicity to bacteria	IC50 900 mg/l /30 min
	chronic toxicity to aquatic invertebrates (Ceriodaphnia dubia)	EC10 30.4 mg/l /7 days
methyl methacrylate	toxicity to fish	LC50 243-275 mg/l /96 h
	toxicity to invertebrates	EC50 69 mg/l
	toxicity to algae	EC50 170 mg/l

12.2. Persistence and degradability

Xylene: biodegradable.*
Butyl acetate: biodegradability 83%, 28 days.*
2-Butoxyethyl acetate: easily biodegradable 77-97%, 28 days.*

12.3. Bioaccumulative potential

Xylene - bioconcentration factor (BCF): 7.4 – 18.5*
Ethylbenzene– log Pow 3.15*
butyl acetate – does not bioaccumulate *

12.4. Mobility in soil

Ethylbenzene - distribution between environmental compartments: log Koc: 3.12 *

12.5. Results of PBT and vPvB assessment

No data.

12.6. Endocrine disrupting properties*

No data.

12.7. Other hazardous effects*

No data.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Used packaging and waste product should be delivered to authorised companies. Dispose of according to applicable local and official waste regulations – see section 15.

Waste code:
08 01 11 Waste paints and varnishes containing organic solvents or other dangerous substances.
15 01 10 Packaging containing residues of or contaminated by dangerous substances (e.g. pesticides of I and II class of toxicity – very toxic or toxic).

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMGD	IATA
14.1. UN number or ID number*	**1263**	**1263**	**1263**
14.2. UN proper shipping name	**PAINT**		
14.3. Transport hazard class (-es) *	**3**	**3**	**3**
Warning label No 3			

14.4. Packaging group	**III**	**III**	**III**
14.5. Environmental hazards	**no**	**no**	**no**
14.6. Special precautions for users	Not applicable.		
14.7. Sea transport in bulk in accordance with IMO instruments*	Not applicable**.**		

SECTION 15: REGULATORY INFORMATION

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

- Regulation (EC) NR 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, 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) NR 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.
- Government Statement of June 26 2005 on the entry into force of amendments to Annexes A and B of the European Agreement on the International Carriage of Dangerous Goods by Road (ADR), drawn up in Geneva on September 30,1957. (Journal of Laws no 178, item 1481 2005 as amended).

15.2. Chemical safety assessment

Chemical Safety Assessment has not been carried out for the mixture.

SECTION 16: OTHER INFORMATION

Full text of hazard statements mentioned in section 2-15 of the Sheet:

Flam. Liq. 2	Flammable liquid, cat.2
H225	Highly flammable liquid and vapour
Flam. Liq.3	Flammable liquids, cat.3
H226	Flammable liquid and vapour
Asp. Tox 1	Aspiration hazard, cat. 1
H304	May be fatal if swallowed and enters airways
Acute Tox. 4	Acute toxicity, cat.4
H302	Harmful if swallowed.
H312	Harmful in contact with skin
H332	Harmful if inhaled
Irrit.2	Skin irritation, cat. 2
H315	Causes skin irritation
Eye Irrit. 2	Eye irritation, cat.2
H319	Causes eye irritation
STOT SE 3	Specific target organ toxicity – single exposure, cat.3
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
STOT RE 2	Specific target organ toxicity – repeated exposure, cat.2
H373	May cause damage to organs
EUH066	Repeated exposure may cause skin dryness or cracking

Explanation of abbreviations:

EC	reference number used in the European Union to identify hazardous substances, in particular those registered in the European Inventory of Existing Chemical Substances (EINECS), or in European List of Notified Chemical Substances (ELINCS) or the list of chemicals listed in 'No-longer polymers'.
CAS	a number assigned to a chemical substance in Chemical Abstracts Service
UVBC	Substances of unknown or variable composition, complex reaction products or biological materials.
MPC	maximum permissible concentration at the workplace - the highest permissible weighted average concentration, whose impact on the employee during 8 hours of work, throughout the entire period of his professional activity, should not cause changes in his state of health and the state of health of his future generations.
MPIC	maximum permissible instantaneous concentration - the maximum permissible instantaneous concentration set as an average value that should not cause negative changes in the state of health of the worker and the state of health of his future generations, if it persists in the work environment for no more than 30 minutes during a shift.
MPCC	concentration value which, due to the threat to the employee's health or life, cannot be exceeded in the work environment at any time.
vPvB	substance, which is very Persistent and very Bio-accumulative
PBT	substance, which is Persistent, Bio-accumulative and toxic
DL_{50}	lethal dose - the dose at which deaths of 50% of test animals are observed over a specified period of time
CL_{50}	lethal concentration - the concentration at which deaths of 50% of the test animals are observed over a specified period of time
CE_{50}	effective concentration - the effective concentration of the substance causing a response at 50% of the maximum value
DNEL	no-harmful level for human health - the level of exposure to a substance not harmful to human health
PNEC	predicted no-effect concentration - the concentration of the substance below which no harmful effects for the environment are expected
PBC	permissible concentration in biological material - the highest permissible level of a specific factor or its metabolite in the relevant biological material or the highest permissible value of an appropriate indicator determining the impact of a chemical agent on the body
BCF	bioconcentration factor - the ratio of the concentration of a substance in the body to its concentration in water at equilibrium
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
UN number	four-digit material identification number in the UN Hazardous Materials List, derived from the UN Model Regulations, to

	which the individual material, mixture or object is classified
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail. Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association.

Recommended use:
The product is intended for professional use only.

Other information sources:
http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances

Other information:
The product described in the safety data sheet should be stored and used in accordance with good industrial practice and in accordance with all legal regulations. The information and recommendations contained in the safety data sheet are based on our general experience and our latest knowledge, and have been presented in good faith. No part of this publication can be treated as guarantee, warranty or position directly, indirectly or otherwise. In all cases, it is the user's responsibility to determine and verify that the information and recommendations are accurate, sufficient and relevant to the particular case. The user is responsible for creating the conditions for the safe use of the product and he is responsible for the consequences of incorrect use of this product.

Training:
Before they start working with the product, the users should learn the Safety Data Sheet and Health and Safety regulations regarding handling chemicals, and in particular, undergo appropriate workplace training.

Changes in the Sheet compared to the previous version:
Updating of sections:
9: rewording of sub-section 9.1: Information on basic physical and chemical properties
11: rewording of sub-section 11.1: Information on the hazard classes defined in Regulation (EC) No 1272/ 2008: added subsection 11.2. Information on other hazards
12: new subsection 12.6: Endocrine disrupting properties.
14: rewording of sub-section 14.1: UN number or ID number; rewording of sub-section 14.7: Sea transport in bulk in accordance with IMO instruments.

Changes in the content of sections:
1.1, 2.2, 3.2, 8.1, 8.2, 9.1, 10.1, 10.5, 11.1, 11.2, 12.1, 12.2, 12.3, 12.4, 12.6, 12.7, 13.1, 14.1, 14.3, 14.7, 15.1, 16.
General update.

Sheet number: 04-0P3L-0123-V3