

## Safety data sheet

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

#### 1.1. Product identifier

Code: 169  
Product name: 13501 UV COATINGS SCREEN MACRO 13501

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

Intended use: UV CURABLE SCREEN OVERPRINT COATING

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

Name: FRIMPEKS KIMYA VE ETIKET SAN.TIC. A.S.  
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e-mail address of the competent person responsible for the Safety Data Sheet: [vincenzo.benessere@frimpeks.com](mailto:vincenzo.benessere@frimpeks.com)

Product distribution by: Niv Asa

#### 1.4. Emergency telephone number

For urgent inquiries refer to: +90 212 867 1000

### SECTION 2. Hazards identification.

#### 2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.

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

##### 2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments.

Hazard classification and indication:

Eye Irrit. 2 H319  
Skin Irrit. 2 H315  
Skin Sens. 1 H317  
Aquatic Chronic 3 H412

##### 2.1.2. 67/548/EEC and 1999/45/EC Directives and following amendments and adjustments.

Danger Symbols: Xi

R phrases: 43-52/53

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

#### 2.2. Label elements.

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

Hazard pictograms:



Signal words: Warning

**SECTION 2. Hazards identification. ... / >>**

## Hazard statements:

<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H412</b>	Harmful to aquatic life with long lasting effects.

## Precautionary statements:

<b>P264</b>	Wash . . . thoroughly after handling.
<b>P273</b>	Avoid release to the environment.
<b>P280</b>	Wear protective gloves / protective clothing / eye protection / face protection.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of soap and water.
<b>P333+P313</b>	If skin irritation or rash occurs: Get medical advice / attention.

**Contains:** bisphenol-A-epoxy acrylate  
 (1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate  
 1,6-HEXANEDIOL DIACRYLATE

**2.3. Other hazards.**

Information not available.

**SECTION 3. Composition/information on ingredients.**
**3.1. Substances.**

Information not relevant.

**3.2. Mixtures.**
**Contains:**

Identification.	Conc. %.	Classification 67/548/EEC.	Classification 1272/2008 (CLP).
<b>INERT</b>			
CAS.	-	50 - 100	
EC.	-		
INDEX.	-		
<b>bisphenol-A-epoxy acrylate</b>			
CAS.	55818-57-0	9 - 30	R53, Xi R43
EC.	500-130-2		
INDEX.	-		
Reg. no.	01-2119490020-53		
<b>(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate</b>			
CAS.	42978-66-5	10 - 20	Xi R36/37/38, Xi R43, N R51/53
EC.	256-032-2		
INDEX.	607-249-00-X		
Reg. no.	01-2119484613-34-0005		
<b>1,6-HEXANEDIOL DIACRYLATE</b>			
CAS.	13048-33-4	5 - 9	Xi R36/38, Xi R43, Note D
EC.	235-921-9		
INDEX.	607-109-00-8		
Reg. no.	01-2119484737-22-0005		
<b>Benzophenone</b>			
CAS.	119-61-9	5 - 9	Xn R48/22, N R51/53
EC.	204-337-6		
INDEX.	-		
Reg. no.	01-2119899704-20-XXXX		

Note: Upper limit is not included into the range.

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

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Dangerous for the Environment(N)

**SECTION 4. First aid measures.**
**4.1. Description of first aid measures.**

**EYES:** Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

**SKIN:** Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

**SECTION 4. First aid measures. ... / >>**

**INHALATION:** Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

**INGESTION:** Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

**SECTION 5. Firefighting measures.****5.1. Extinguishing media.**

**SUITABLE EXTINGUISHING EQUIPMENT**

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

**UNSUITABLE EXTINGUISHING EQUIPMENT**

None in particular.

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

**HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Do not breathe combustion products.

**5.3. Advice for firefighters.**

**GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health.

Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

**SECTION 6. Accidental release measures.****6.1. Personal precautions, protective equipment and emergency procedures.**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

**6.2. Environmental precautions.**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections.**

Any information on personal protection and disposal is given in sections 8 and 13.

**SECTION 7. Handling and storage.****7.1. Precautions for safe handling.**

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

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

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

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

Information not available.

## SECTION 8. Exposure controls/personal protection.

### 8.1. Control parameters.

Regulatory References:  
 United Kingdom

EH40/2005 Workplace exposure limits. Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations (as amended).

Éire  
 OEL EU

Code of Practice Chemical Agent Regulations 2011.  
 Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.

TLV-ACGIH

ACGIH 2012

#### bisphenol-A-epoxy acrylate

##### Predicted no-effect concentration - PNEC.

Normal value for the terrestrial compartment	0.05	mg/kg
Normal value in fresh water	0.003	mg/l
Normal value for water, intermittent release	0.013	mg/l
Normal value in marine water	0.0003	mg/l
Normal value for fresh water sediment	0.5	mg/kg
Normal value for marine water sediment	0.5	mg/kg
Normal value of STP microorganisms	10	mg/l

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers.				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.	VND	0,75 mg/kg	VND	0,75 mg/kg				
Inhalation.	VND	0,75 mg/m3	VND	0,75 mg/m3	VND	12,3 mg/m3	VND	12,3 mg/m3
Skin.	VND	3,6 mg/kg	VND	3,6 mg/kg	VND	8,3 mg/kg	VND	8,3 mg/kg

#### (1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate

##### Predicted no-effect concentration - PNEC.

Normal value for the terrestrial compartment.	0.00243	mg/kg
Normal value in fresh water.	0.0073	mg/l
Normal value for water, intermittent release.	0.73	mg/l
Normal value in marine water.	0.0007	mg/l
Normal value for fresh water sediment.	0.019	mg/kg
Normal value for marine water sediment.	0.0019	mg/kg
Normal value of STP microorganisms.	100	mg/l

##### Health - Derived no-effect level - DNEL / DMEL.

Route of exposure.	Effects on consumers.				Effects on workers.			
	Acute local.	Acute systemic.	Chronic local.	Chronic systemic.	Acute local.	Acute systemic.	Chronic local.	Chronic systemic.
Oral.	VND	2,08 mg/kg						
Inhalation.			VND	7,24 mg/m3			VND	24,48 mg/m3
Skin.			VND	1,66 mg/kg			VND	2,77 mg/kg

**SECTION 8. Exposure controls/personal protection. ... / >>**
**Benzophenone**
**Predicted no-effect concentration - PNEC.**

Normal value for the terrestrial compartment.	0.31	mg/kg
Normal value in fresh water.	0.02	mg/l
Normal value for water, intermittent release.	0.035	mg/l
Normal value in marine water.	0.002	mg/l
Normal value for fresh water sediment.	1.1	mg/kg
Normal value for marine water sediment.	0.11	mg/kg
Normal value of STP microorganisms.	3.16	mg/kg

**Health - Derived no-effect level - DNEL / DMEL.**

Route of exposure.	Effects on consumers.			Effects on workers.				
	Acute local.	Acute systemic.	Chronic local.	Chronic systemic.	Acute local.	Acute systemic.	Chronic local.	Chronic systemic.
Oral.			VND	0,05 mg/kg/day				
Inhalation.			VND	0,17 mg/m3			VND	26,4 mg/m3
Skin.			VND	0.05 mg/kg/day			VND	15 mg/kg/day

**Legend:**

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

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

**8.2. Exposure controls.**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

**HAND PROTECTION**

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

**SKIN PROTECTION**

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

**RESPIRATORY PROTECTION**

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type B filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

**ENVIRONMENTAL EXPOSURE CONTROLS.**

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

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

**SECTION 9. Physical and chemical properties.**
**9.1. Information on basic physical and chemical properties.**

Appearance	Not available.
Colour	Not available.
Odour	Not available.
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	Not available.
Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	> 100 °C.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower inflammability limit.	Not available.

**SECTION 9. Physical and chemical properties. ... / >>**

Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	Not available.
Solubility	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.

**9.2. Other information.**

Information not available.

**SECTION 10. Stability and reactivity.**
**10.1. Reactivity.**

There are no particular risks of reaction with other substances in normal conditions of use.

**10.2. Chemical stability.**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions.**

No hazardous reactions are foreseeable in normal conditions of use and storage.

**10.4. Conditions to avoid.**

None in particular. However the usual precautions used for chemical products should be respected.

**10.5. Incompatible materials.**

Information not available.

**10.6. Hazardous decomposition products.**

Information not available.

**SECTION 11. Toxicological information.**
**11.1. Information on toxicological effects.**

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

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

Acute effects: stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation.

Vapour inhalation may moderately irritate the upper respiratory tract. Contact with skin may cause slight irritation.

Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

Acute effects: contact with skin may cause: irritation, erythema, edema, dryness and chapped skin. Vapour inhalation may slightly irritate the upper respiratory tract. Ingestion may cause health disorders, including stomach pain and sting, nausea and sickness.

Upon contact with skin, this product causes sensitization (dermatitis). Dermatitis derives from skin irritation on the areas which repeatedly come into contact with the sensitizing agent. Cutaneous lesions may include: erythemas, edemas, papules, vesicles, pustules, scurries, ulcerations and exudative phenomena, whose intensity varies according to illness seriousness and affected areas. Erythemas, edemas and exudative phenomena prevail during the acute phase. Scurfy skin, dryness, ulcerations and skin thickening prevail during the chronic phase.

bisphenol-A-epoxy acrylate

LD50 (Oral). 30000 mg/kg Rat

LD50 (Dermal). > 2000 mg/kg Rat

Benzophenone

LD50 (Oral). 727 mg/kg mouse

(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)]

LD50 (Oral). > 2000 mg/kg rat

LD50 (Dermal). > 2000 mg/kg rabbit

diacrylate

1,6-HEXANEDIOL DIACRYLATE

LD50 (Oral). > 5000 mg/kg RAT

LD50 (Dermal). 3560 mg/kg RABBIT

## SECTION 12. Ecological information.

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

### 12.1. Toxicity.

bisphenol-A-epoxy acrylate

LC50 - for Fish.	1.3 mg/l/96h Trout
EC50 - for Crustacea.	2.1 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants.	11 mg/l/72h Algae

Benzophenone

LC50 - for Fish.	15.3 mg/l/96h Pimephales promelas
EC50 - for Crustacea.	0.28 mg/l/48h Daphnia Magna
EC50 - for Algae / Aquatic Plants.	30.1 mg/l/72h Daphnia Magna

(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)]

LC50 - for Fish.	> 4.6 mg/l/96h Leuciscus idus
EC50 - for Crustacea.	89 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants.	66 mg/l/72h Scenedesmus subspicatus

diacrylate

1,6-HEXANEDIOL DIACRYLATE

LC50 - for Fish.	1 mg/l/96h Leuciscus idus
EC50 - for Algae / Aquatic Plants.	1 mg/l/72h Scenedesmus subspicatus

### 12.2. Persistence and degradability.

bisphenol-A-epoxy acrylate  
NOT rapidly biodegradable.

Benzophenone  
NOT rapidly biodegradable.

1,6-HEXANEDIOL DIACRYLATE  
Rapidly biodegradable.

### 12.3. Bioaccumulative potential.

Information not available.

### 12.4. Mobility in soil.

Information not available.

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

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

### 12.6. Other adverse effects.

Information not available.

## SECTION 13. Disposal considerations.

### 13.1. Waste treatment methods.

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

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

Avoid littering. Do not contaminate soil, sewers and waterways.

CONTAMINATED PACKAGING

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

## SECTION 14. Transport information.

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

## SECTION 15. Regulatory information.

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

Seveso category. None.

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

Product.  
Point. 3

Substances in Candidate List (Art. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012.

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

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

### 15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

## SECTION 16. Other information.

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

<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>Skin Sens. 1</b>	Skin sensitization, category 1
<b>Aquatic Chronic 2</b>	Hazardous to the aquatic environment, chronic toxicity, category 2
<b>Aquatic Chronic 3</b>	Hazardous to the aquatic environment, chronic toxicity, category 3
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>H412</b>	Harmful to aquatic life with long lasting effects.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

<b>R36/37/38</b>	IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
<b>R36/38</b>	IRRITATING TO EYES AND SKIN.
<b>R43</b>	MAY CAUSE SENSITISATION BY SKIN CONTACT.
<b>R48/22</b>	HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE IF SWALLOWED.
<b>R51/53</b>	TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
<b>R52/53</b>	HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
<b>R53</b>	MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

#### LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008

**SECTION 16. Other information. ... / >>**

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

**GENERAL BIBLIOGRAPHY**

1. Directive 1999/45/EC and following amendments
2. Directive 67/548/EEC and following amendments and adjustments
3. Regulation (EC) 1907/2006 (REACH) of the European Parliament
4. Regulation (EC) 1272/2008 (CLP) of the European Parliament
5. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
6. Regulation (EC) 453/2010 of the European Parliament
7. Regulation (EC) 286/2011 (II Atp. CLP) of the European Parliament
8. Regulation (EC) 618/2012 (III Atp. CLP) of the European Parliament
9. The Merck Index. - 10th Edition
10. Handling Chemical Safety
11. Niosh - Registry of Toxic Effects of Chemical Substances
12. INRS - Fiche Toxicologique (toxicological sheet)
13. Patty - Industrial Hygiene and Toxicology
14. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
15. ECHA website

**Note for users:**

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

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

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

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

**Changes to previous review:**

The following sections were modified:

03 / 05.