

TÜV Nederland QA B.V. Report

Investigation of a front fork in use for electrically power assisted cycles – EPAC bicycles

2410-C-243 Xanitation B.V.

01-10-2020

Overview

Assignor	Xanitation B.V. De Hulst 5 9301 PB Roden The Netherlands
Contact person	Mr R. Dingen
Description	<p>Product test:</p> <ol style="list-style-type: none">1) material identification + resistance to lye / base (soap): file investigation2) Durability test: UV of housing (hardening / embrittlement by heat / UV): file examination3) Durability test: blade sharpness / hardness measurements (accelerated)4) Child safety use: "small finger" test -> dimensions / children's hand / sensitivity to injury with normal use and improper use5) Judgement of discouragement from "theft" soap mechanism6) Plastic analysis for the presence of plasticisers and heavy metals: file examination
Conclusion	<p>The product as delivered to TÜV as well as the supplied Technical File fulfils the legal demands on the following items;</p> <ol style="list-style-type: none">1) Material identification + resistance to lye / base (soap): file investigation: PASS2) Durability test: UV of housing (hardening / embrittlement by heat / UV): file examination : PASS3) Durability test: blade sharpness / hardness measurements (accelerated): 10000 x : PASS (The soap bar must be displaced by 'soft-blow' by the hand on the casing to prevent loss of effective scraping of soap due to 'trail' forming of the scrapers on the soap. This means fixation to the wall must be rigid.)4) Child safety use: "small finger" test -> dimensions / children's hand / sensitivity to injury with normal use and improper use : PASS5) Judgement of discouragement from "theft" soap mechanism: PASS (The fixation to the wall must be rigid).6) Plastic analysis for the presence of plasticisers and heavy metals: file examination : PASS
Date of execution	Aug/Sept 2020
Report date	29-09-2020


Reported by

Mr. R. de Bode / Mr. A.J. Piers

A handwritten signature in blue ink, appearing to be 'R. de Bode', enclosed in a blue rectangular box.

Reviewed by

Mr. A.J. Piers, B.Sc.

A handwritten signature in blue ink, appearing to be 'A.J. Piers', enclosed in a blue rectangular box.

TÜV Nederland QA B.V.

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1 Introduction

Xanitation B.V. in The Netherlands has assigned TÜV Nederland QA B.V. in The Netherlands with the execution of verification and testing of the product for the following topics:

- 1) Material identification + resistance to lye / base (soap): file investigation
- 2) Durability test: UV of housing (hardening / embrittlement by heat / UV): file examination
- 3) Durability test: blade sharpness / hardness measurements (accelerated)
- 4) Child safety use: "small finger" test -> dimensions / children's hand / sensitivity to injury with normal use and improper use
- 5) Judgement of discouragement from "theft" soap mechanism
- 6) Plastic analysis for the presence of plasticisers and heavy metals: file examination

For file investigation documents are supplied as being the specifications of the used materials and tests per supplier. Main target of the investigation is the integral product safety for use by children and in general the durability of the product.

2 Samples

TÜV Nederland QA BV was not involved in selection of the samples. The test results in this report apply to the samples as received from the assignor. In annex A the sample and parts of the samples are illustrated. In annex B the suppliers information, proof and specifications are illustrated including the user instructions.

3 Test description and results

3.1 Material identification + resistance to lye / base (soap): file investigation

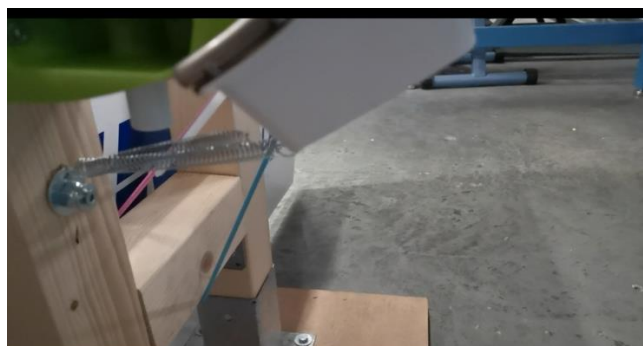
In annex B the material identification are supplied and fixated as specification of the product. The materials comply to current European Legislation.

3.2 Durability test: UV of housing (hardening / embrittlement by heat / UV): file examination

UV test report of the plastics are supplied and evaluated. The conclusion is that the accelerated ageing under condition of the specification as supplied will not show a rapid decay of hardness, embrittlement due to UV and/or heat exposure. The recommendation is the product is not placed in direct sun light / outside buildings.

3.3 Durability test: blade sharpness / hardness measurements (accelerated)

TUV designed a test set-up, where based on 10000x the handle was moved to evaluate the effect of soap portion, stability of materials.



After 10000x the blade was examined beside maintaining the effect of soap portion delivery. The blade does show some wear but the sharpness is still present to have an effective soap portion delivery. Track formation on the soap bar does occur and results in a reduced the soap portion delivery, however, with a soft blow by hand on the side of the casing will displace the soap bar enough to deliver the required soap portion. We expect in normal

use the track formation is not at high as per test is present, because of the static set-up of the test. Never the less users will learn that more soap is delivered if the soap bar is displaced when track formation on the soap surface occurs. Fixation to the wall is important to secure because a 'soft blow by hand' is a relative statement.

3.4 Child safety use: "small finger" test -> dimensions / children's hand / sensitivity to injury with normal use and improper use

TÜV had not detected any dangerous situation of cutting (accidentally) fingers during use in normal situation. The access to the blades is protected enough. With objects (pliers) one can access the blades. The blades are however not of an extreme sharpness. The conclusion is that no significant danger of cutting fingers is present.

3.5 Judgement of discouragement from "theft" soap mechanism

The soap bar is protected against theft by an ingenious spring/unlock mechanism. It means that only with certain maintained and relative high force the soap bar compartment can be opened. By a slight decrease in force stability the spring will bring the opening sequence back to it's starting point. This will discourage any untrained and uninstructed person to understand the mechanism and opening of the soap bar compartment.

Even users that are assigned to replace the soap bar will need some practice to understand the opening system. In case some complaints are made on unsuccessful opening to replace the bar, the answer is: training and experience and the 'difficulty' has been introduced on purpose to prevent theft of soap bars.

3.6 Plastic analysis for the presence of plasticisers and heavy metals: file examination

In annex B the material identification are supplied and fixated as specification of the product. The materials comply to current European Legislation.

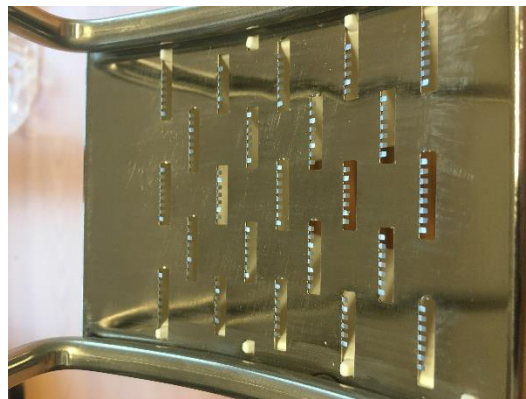
4 Conclusion - Discussion

On basis of the tests conducted as detailed in this report, the following conclusions are made:

The product as delivered to TÜV as well as the supplied Technical File fulfils the legal demands on the following items;

- 1) Material identification + resistance to lye / base (soap): file investigation: PASS
- 2) Durability test: UV of housing (hardening / embrittlement by heat / UV): file examination : PASS
- 3) Durability test: blade sharpness / hardness measurements (accelerated): 10000 x : PASS (The soap bar must be displaced by 'soft-blow' by the hand on the casing to prevent loss of effective scraping of soap due to 'trail' forming of the scrapers on the soap. This means fixation to the wall must be rigid.)
- 4) Child safety use: "small finger" test -> dimensions / children's hand / sensitivity to injury with normal use and improper use : PASS
- 5) Judgement of discouragement from "theft" soap mechanism: PASS (The fixation to the wall must be rigid).
- 6) Plastic analysis for the presence of plasticisers and heavy metals: file examination : PASS

Annex A , Photo's of internal examination safety and locking



Annex B, Data Supplied by suppliers

Masterbatch
(Farbkonzentrate)
Für alle thermoplastischen Kunststoffe

Color-Service GmbH & Co. KG – Am Mittelberg 3 – 63791 Karlstein



REACH-VERORDNUNG 1907/2006/EG

Die EG-Verordnung 1907/2006, die am 01.06.2007 in Kraft getreten ist, reguliert die Registrierung, Bewertung, Zulassung und Beschränkung von Chemikalien. Die Einführung der Verordnung war aus Sicht der Europäischen Behörden notwendig, um die Hersteller und Importeure für den sicheren Umgang mit Chemikalien verantwortlich zu machen und nicht die nationalen Behörden (in Deutschland z.B. die Bundesanstalt für Arbeitsschutz und Arbeitsmedizin BAuA).

Bis heute haben die Hersteller/Importeure mehr als 12.000 Stoffe bei der Chemieagentur ECHA in Helsinki registriert. Kommission und Agentur haben über 160 Kandidatenstoffe ernannt (bis 2018 wird mit 400 Ernennungen insgesamt gerechnet), haben 31 Stoffe für zulassungspflichtig erklärt und viele neue Beschränkungen verordnet.

Die CLP (GHS)-Verordnung 1272/2008/EG

Die Verordnung zur Einstufung, Kennzeichnung und Verpackung von Stoffen, englisch Classification, Labeling and Packaging (CLP), setzt das Globally Harmonized System (GHS) der United Nations in der EU um. CLP sagt uns mit Hilfe von 28 Gefahrenklassen und 72 Kategorien, was ein gefährlicher Stoff ist, der mit mindestens einem Hazard-Statement, H-Satz, eingestuft ist. H-Satz-Stoffe sind gefährliche Stoffe. Im sogenannten C&L-Inventory sind alle gefährlichen Stoffe gelistet.

Darüber hinaus regelt in Deutschland noch die Gefahrstoff-Verordnung, was ein Gefahrstoff ist. Gefahrstoffe sind, vereinfacht dargestellt

- Gefährliche Stoffe (H-Satz-Stoffe) – siehe oben plus
- Gemische/Erzeugnisse, die einen H-Satz-Stoff freisetzen plus
- Stoffe, die die Gesundheit der Beschäftigten gefährden.

Für Gefahrstoffe und Gemische, die einen Gefahrstoff enthalten, ist ein Sicherheitsdatenblatt nach Art. 31 der REACH-VO auszustellen.

Es lässt sich folgende Gefahrstoff-Hierarchie ableiten:

- Ca. 8.000 Gefahrstoffe gibt es in Deutschland.
- Ca. 5.000 H-Satz-Stoffe – gefährliche Stoffe – gibt es in der EU.
- Ca. 400 Stoffe sind potentielle Kandidatenstoffe.
- Mehr als 160 Kandidatenstoffe sind bis heute ernannt.
- 31 Stoffe sind bis heute für zulassungspflichtig erklärt.
- 64 Verwendungsbeschränkungen für Stoffe und Stoffgruppen sind bis heute verordnet.

Zusammengefasst: Die CLP-Verordnung sagt uns, was ein gefährlicher Stoff/ein gefährliches Gemisch ist und wie hoch die Gefährdung ist. Die REACH-Verordnung sagt uns, wie wir die Gefährdung kommunizieren müssen.

Color Service GmbH & Co. KG, Am Mittelberg 3, D-63791 Karlstein
AG Aschaffenburg HRA 5618 · Ust.-Ident.-Nr.: DE230225490

Komplementärin: Color Service Verwaltungs GmbH Geschäftsführer: Amos Megides, Dr. Thomas Kemmler, David Zveda
AG Aschaffenburg HRB 13811

Masterbatch
(Farbkonzentrate)
Für alle thermoplastischen Kunststoffe

Color-Service GmbH & Co. KG – Am Mittelberg 3 – 63791 Karlstein



UNSERE PFLICHTEN

1. Color-Service GmbH & Co. KG sind „Nachgeschalteter Anwender“ oder „Downstream User“. Masterbatches werden aus mehreren Stoffen hergestellt; definitionsgemäß sind es Gemische.
2. Die von unseren Lieferanten zur Verfügung gestellten Sicherheitsdatenblätter werden von uns regelmäßig hinsichtlich aller Inhaltsstoffe geprüft. Sobald wir neue Informationen erhalten, aktualisieren wir unsere eigenen Sicherheitsdatenblätter. Wir erstellen für alle unsere Produkte, eingestuft oder nicht eingestuft, ein Sicherheitsdatenblatt nach den formalen Vorschriften der Verordnung 453/2010/EU.
3. Inzwischen sind weit mehr als 90 % der Stoffe in unseren zugekauften Rohstoffen registriert. Mit Hilfe der öffentlich verfügbaren Registrierungsdaten und der Daten im C&L Inventory überprüfen wir die Sicherheitsdatenblätter derjenigen Rohstoffgemische, die noch nicht registrierte Stoffe enthalten. Damit gewährleisten wir die Aktualität der Daten in unseren Dokumenten.
4. Unsere Masterbatches sind nach den uns vorliegenden Dokumenten der Hersteller und Lieferanten aktuell frei von Kandidatenstoffen.

Informationen zur Produktsicherheit unserer Masterbatches erhalten Sie mit unserer Produktinformation, welche wir Ihnen auf Anfrage gerne zur Verfügung stellen. Diese Produktinformationen stützen sich auf den derzeitigen Stand unserer Kenntnisse und Erfahrungen. Für Faktoren, die außerhalb unserer Kenntnis und Kontrolle liegen, kann keine Gewährleistung und Haftung übernommen werden. Jeder Anwender hat das beabsichtigte Einsatzgebiet und den jeweiligen Verwendungszweck unter Berücksichtigung etwaiger spezifischer Besonderheiten in eigener Verantwortung zu prüfen.

Stand : Mai 2016

Color Service GmbH & Co. KG, Am Mittelberg 3, D-63791 Karlstein
AG Aschaffenburg HRA 5618 · Ust.-Ident.-Nr.: DE230225490

Komplementärin: Color Service Verwaltungs GmbH Geschäftsführer: Amos Megides, Dr. Thomas Kemmler, David Zveda
AG Aschaffenburg HRB 13811

Terluran GP-35

Acrylonitrile Butadiene Styrene (ABS)



Technical Datasheet

DESCRIPTION

Terluran® GP-35 is high-flow, general purpose injection molding grade with good ductility, intended for moldings with thin walls and/or adverse flow length to wall ratio.

FEATURES

- Excellent colorability
- High flowability
- Good impact resistance
- Good heat distortion resistance
- High quality surface finish and gloss

APPLICATIONS

- Injection molding
- Thin wall components for telecommunications
- Household and sanitary appliances
- Toys
- Automotive components

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Volume Rate 220 °C/10 kg	ISO 1133	cm ³ /10 min	34
Mechanical Properties			
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m ²	22
Izod Notched Impact Strength, -30 °C	ISO 180/A	kJ/m ²	7
Charpy Notched Impact Strength, 23° C	ISO 179	kJ/m ²	19
Charpy Notched Impact Strength, -30° C	ISO 179	kJ/m ²	7
Charpy Unnotched, 23° C	ISO 179	kJ/m ²	125
Charpy Unnotched, -30° C	ISO 179	kJ/m ²	90
Tensile Stress at Yield, 23° C	ISO 527	MPa	44
Tensile Strain at Yield, 23° C	ISO 527	%	2.4
Tensile Modulus	ISO 527	MPa	2300
Nominal Strain at Break, 23 °C	ISO 527	%	12
Flexural Strength	ISO 178	MPa	65
Hardness, Ball Indentation	ISO 2039-1	MPa	99
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50°C/h, 50N)	ISO 306	°C	95
Vicat Softening Temperature, VST/A/50 (50°C/h, 10N)	ISO 306	°C	102

Terluran GP-35

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Property, Test Condition	Standard	Unit	Values
Heat Deflection Temperature A; (annealed, 1.8 MPa)	ISO 75	°C	92
Heat Deflection Temperature B; (annealed, 0.45 MPa)	ISO 75	°C	95
Coefficient of Linear Thermal Expansion	ISO 11359	10 ⁻⁶ (-)/°C	80 - 110
Thermal Conductivity	DIN 52612-1	W/(m K)	0.17
Electrical Properties			
Volume Resistivity	IEC 60093	Ohm*m	1E13
Other Properties			
Density	ISO 1183	kg/m ³	1040
Water Absorption, Saturated at 23°C	ISO 62	%	0.95
Moisture Absorption, Equilibrium 23°C/50% RH	ISO 62	%	0.24
Yellowness Index	DIN 6167	-	13
Processing			
Linear Mold Shrinkage	ISO 294-4	%	0.4 - 0.7
Melt Temperature Range	ISO 294	°C	220 - 260
Mold Temperature Range	ISO 294	°C	30 - 80
Injection Velocity	ISO 294	mm/s	200
Drying Temperature		°C	80
Drying Time		h	2 - 4

Typical values for uncolored products

SUPPLY FORM

Terluran® is delivered as spherical pellets. The bulk density of the pellets is from 0.55 to 0.65 g/cm³. Standard Packaging unit: 25 kg PE-bag on palette, shrunk or wrapped with PE film or delivery in silo trucks. PE bags should not be stored outside. In dry areas with normal temperature control, Terluran pellets can be stored for relatively long periods of time without any change in mechanical properties. Under poor storage conditions, Terluran absorbs moisture, but this can be removed by drying.

Terluran GP-35

Acrylonitrile Butadiene Styrene (ABS)



PRODUCT SAFETY

No adverse effects on the health of processing personnel have been observed if the products are correctly processed and the production areas are suitably ventilated. For styrene, acrylonitrile and 1,3-butadiene the maximum allowable workplace concentrations must be observed according to the pertaining national regulations. In Germany, the following limit values are valid (Oct. 2002): styrene, MAK-value: $20 \text{ ml/m}^3 = 86 \text{ mg/m}^3$; acrylonitrile, TRK-value: $3 \text{ ml/m}^3 = 7 \text{ mg/m}^3$ and 1,3-butadiene, TRK-value: $5 \text{ ml/m}^3 = 11 \text{ mg/m}^3$. According to EU directive 67/548/EWG, Annex I and TRGS 905 (Oct. 2002), acrylonitrile and 1,3-butadiene are classified as carcinogenic, category 2 ('substances which should be regarded as if they are carcinogenic to man') and 1 (substances known to be carcinogenic to man), respectively. Experience has shown that during appropriate processing of Terluran with suitable ventilation the values obtained are well below the limits mentioned above. TRGS 402 (Germany) can be used for determining and assessing the concentrations of hazardous substances in the air within working areas. Inhalation of gaseous degradation products, such as those which may arise on severe overheating of the material or during pumped evacuation, must be avoided. Further information can be found in our Terluran safety data sheets.

DISCLAIMER

The above information is provided in good faith. Styrolution is not responsible for any processing or compounding which may occur to product finished articles, packaging materials or their components. Further, Styrolution MAKES NO WARRANTY OR REPRESENTATION OF ANY KIND, REGARDING THE INFORMATION GIVEN OR THE PRODUCTS DESCRIBED, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES, REPRESENTATIONS AND CONDITIONS, INCLUDING WITHOUT LIMITATION ALL WARRANTIES AND CONDITIONS OF QUALITY, MERCHANTABILITY AND SUITABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Responsibility for use, storage, handling and disposal of the products described herein is that of the purchaser or end user.

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URL: www.color-service.de
E-mail: info@color-service.de

Technical

Datasheet

Created at: 11.03.1998
Last changes at: 04.12.2017

Article no.

UN0003

MB UN WEISS

MB UN WHITE

Contents

Diarylide pigments: [No]
Lead pigments: [No]
Cadmium pigments: [No]

Physiolog. harmless: [Yes]
Warpage: none
Min. shelf life from
production date in days appr.: [180]

	Temp. Resist. °C acc.DIN 53772	Light Fastness acc.DIN 53387/88	Weather Resistance	Predrying Temp. in °C (Max.)	Preliminary Tests necessary (1)
PS	300	8	5	60	NO
SB	300	8	5	60	NO
ABS	300	8	5	60	NO
SAN	300	8	5	60	NO
ASA	300	8	5	60	NO
PE	300	8	5	60	NO
PP	300	8	5	60	NO
PAG	300	8	5	60	NO
TPU	240	8	5	60	NO
POM	220	8	5	60	NO
PBT	280	8	5	60	NO
TPE	260	8	5	60	NO
PC	300	8	5	60	NO
PMMA	300	8	5	60	NO
PVC-H	200	8	5	60	NO
PVC-W	200	8	5	60	NO

Remarks: The specified value refer to the colorants used.

(1) The customer has to make own tests
The dosage depends on the raw material, the size and the wall-thickness of the article to be produced and other parameters. The above information is based on our current knowledge and is intended to give details about our products and their possible applications. It has to be considered as a recommendation and does not refer to guaranteed product properties.
Please take notice of our 'General and specific information on the use of our Color Concentrates'.

Misprints and errors excepted !

Safety Datasheet

acc. to Regulation EC 1907/2006 (REACH), Article 32

Article number:

UN0003

Article description:

MB UN WHITE

Compiled: 5/6/2019

Version: 18.01

Valid since: 5/6/2019

replaces: all previous issues



1. Identification of the mixture and of the company/undertaking

1.1 Product identifier

Masterbatch UN0003 MB UN WHITE

1.2 Relevant identified uses of the mixture and uses advised against

Recommended use: preparation of colorants and/or additives in a polymer carrier

Recommendations for use please see the Product Information respective.

Only for commercial use. Not a product for end consumers.

1.3 Details of the supplier of the safety information

Manufacturer

COLOR SERVICE GmbH & Co. KG
Am Mittelberg 3
D-63791 Karlstein / Großwelzheim
TEL +49 (0)6188-4469-0
FAX +49 (0)6188-4469-111
www.color-service.de

Responsible department

Product Safety
TEL +49 (0)6188-4469-444
produktsicherheit@color-service.de

1.4 Emergency telephone number

Monday till Friday 9 - 16

TEL +49 (0)6188-4469-444
produktsicherheit@color-service.de

2. Hazards identification

2.1 Classification of the mixture

Classification according to CLP Regulation 1272/2008/EC.

Not required

2.2 Label elements

Labelling according to CLP Regulation 1272/2008/EC.

Not required

2.3 Other hazards

Slip hazard on spilled granules

3. Composition/information on ingredients

3.2 Mixture

Chemical identity:

mixture of colorants in a universal carrier

Hazardous ingredients:

None which have to be labelled

Remarks and general indications:

Not required

Safety Datasheet

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4. First aid measures

4.1 **Description of first aid measures**

The first aid measures refer to hot, uncontrolled product release and in the event of fire.

After inhalation

- of dust

Move the person to fresh air. As appropriate seek medical advice.

- products of decomposition in the event of fire

Move the person to fresh air and lay/sit down. Seek medical advice immediately.

After contact with skin

- with hot polymer

Rinse under cold water. Do not remove/peel the polymer from skin. Seek medical advice immediately.

- with dust

Clean off with water and soap.

After contact with eyes

- with hot polymer

Thoroughly rinse immediately with plenty of water for 15 minutes. Do not remove the polymer mechanically.

Seek medical advice immediately

- with dust

Thoroughly rinse immediately with plenty of water for 15 minutes. As appropriate seek medical advice.

After ingestion

Seek medical advice.

Personal protective equipment for first aid responders

In the event of accident with hot polymer: heat protection gloves for short-time heat contact, see section 8.2.

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

After skin contact with hot polymer: burns.

After ingestion of considerable polymer: constipation/congestion of the intestines is possible.

Seek medical advice.

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

After ingestion do not give a laxative. Induce vomiting only after medical advice.

5. Firefighting measures

5.1 **Extinguishing media**

Suitable: water spray jet, foam, CO₂ and extinguishing powder

Not suitable: full water jet

5.2 **Special hazards arising from the mixture**

Hazardous fumes/gases may develop in a fire: carbon monoxide, carbon dioxide and soot.

5.3 **Advice for firefighters**

Use self-contained breathing apparatus during use in immediate vicinity and inside closed rooms.

Chemically contaminated extinguishing water not to be released to the canalisation, soil or waters.

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6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Particular slip hazard through spilled granules/regrind. Avoid dust formation.
Handling of hot polymer material only by trained personnel.

6.2 Environmental precautions

Keep workplaces clean. Avoid dust formation. Spilled granules not to be released to the canalisation, soil or waters.

6.3 Methods and material for containment and cleaning up

Pick up and dispose the product mechanically. Sweep up granules/regrind, vacuum-clean any dust.

6.4 Reference to other sections

Handling and storage - section 7.

Exposure control/personal protection - section 8.

Disposal considerations - section 13.

7. Handling and storage

7.1 Precautions for safe handling

Avoid release of molten polymer. Avoid dust formation. Take precautionary measures against electrostatical charging while transferring (ground connection). Heed the general rules of the preventative operational fire protection. Pipes and plant components made of conductive material. No open fire. Do not eat, drink or smoke at the working place. Wash your hands before breaks.
Dress-off dirty clothes and keep them separate from clean clothes or street wear.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Store dry at room temperature. Take care of an appropriate venting. Store in such a way that only instructed persons have access. Avoid ignition sources, heat, sparks and open flames.

Specifics in terms of storerooms and containers

Storage in the original packaging on pallets. Keep original storage containers closed.
Exchange damaged packaging immediately.

7.3 Specific end uses

Safe working in the plastics converting industry.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

General dust limit value

respirable - A-dust: 1.25 mg/m³

inhalable - E-dust: 10 mg/m³

Biological limit values

none

Safety Datasheet

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8. Exposure controls/personal protection (continued)

8.2 Exposure controls

Personal protective equipment

Respiratory protection: for dust formation: dust mask FFP2

Hand protection: glove material: nitril; layer thickness (mm): 0.11

For hot contact: heat protections gloves

Glove material, see EN 420, EN 388 and EN 407 for temperatures 350 /500°C

Eye protection: safety glasses recommended, e.g. "spectacle frame with side protection"

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property				
Appearance	cylinder granulate			
Colour	<i>see article description in the header</i>			
Aggregate state	solid			
Smell	faint			
Odour threshold	not determined			
Carrier	universal carrier			
Parameter	Value	Unit	Method	Remarks
Softening temperature	65 - 85	°C		
Flash point	> 200	°C		not determined
Possibility of dust explosion (particle size < 250 µm)		--		not determined
Ignition energy		mJ		not determined
Vapour pressure of hazardous ingredients		°C		not applicable
pH				not applicable
Relative density	1.1 - 1.2	g/cm ³		
Solubility in water (20°C)		insoluble		
Solubility in solvents		soluble in some solvents		
Temperature of spontaneous combustion		°C		not determined
Temperature of decomposition	> 280	°C		not determined

9.2 Other information

none

10. Stability and reactivity

10.1 Reactivity

none

10.2 Chemical stability

Chemically stable

10.3 Possibility of hazardous reactions

Dust of carrier in air may lead to explosion

10.4 Conditions to avoid

Do not use at processing temperatures above 300°C

Safety Datasheet

acc. to Regulation EC 1907/2006 (REACH), Article 32

Article number: UN0003
Article description: MB UN WHITE

Compiled: 5/6/2019
Valid since: 5/6/2019

Version: 18.01
replaces: all previous issues



10. Stability and reactivity (continued)

10.5 Incompatible materials

Solvents, strong oxidants

10.6 Hazardous decomposition products

In case of fire: carbon monoxide, carbon dioxide, soot.

11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity: LD₅₀ > 2000 mg/kg (rat)

Value determined from the toxicological data of the raw material components.

Practical experiences and information on the ingredients

Indications in terms of conformity of food contact and use in toys please see our Product Information.

12. Ecological information

12.1 Toxicity

Not determined

12.2 Persistence and degradability

The product is not biodegradable

12.3 Bioaccumulative potential

The product is poorly water-soluble. It can be eliminated from the water through abiotic processes, e.g. mechanical separation. Elimination through precipitation or flocculation possible.

12.4 Mobility in soil

none

12.5 Results of PBT and vPvB assessment

No evaluation undertaken

12.6 Other adverse effects

No evaluation undertaken

13. Disposal consideration

13.1 Waste treatment methods

Product can be recycled under compliance of official regulations.
Packaging emptied of residue can be passed on for further recycling
Polymer waste

14. Transport information

14.1 UN number	none
14.2 UN proper shipping name	not applicable
14.3 Transport hazard classes	not applicable
14.4 Packing group	not applicable
14.5 Environmental hazards	Do not release to open waters

Safety Datasheet

acc. to Regulation EC 1907/2006 (REACH), Article 32

Article number:

UN0003

Article description:

MB UN WHITE

Compiled: 5/6/2019

Version: 18.01

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14. Transport information (continued)

14.6 **Special precautions for user**

none

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

not applicable

15. Regulatory information

15.1 **Safety, health and environmental regulations/legislation specific for the mixture**

Specific Regulations for the mixture: see our Product Information

15.2 **Chemical safety assessment**

not applicable

16. Other information

16.1 **Changed information and the reason of change**

Kind of change Regeneration of document

Reason of change --

Indication:

The data given in this document is accurate on our current knowledge and experience. They do not represent any warranty of characteristics and do not constitute any contractual right. Statutory regulations and provisions have to be assumed under own responsibility.

Product Information

Article number:
Article description:

UN0003
MB UN WHITE

Compiled: 08.12.2011
Valid since: 15.04.2020

Version: 9
replaces: Version 8
(26.07.17)



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Issuing Department: product safety
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Food contact within EU and Germany

Declaration of Compliance acc. to Art. 15/Annex IV of Regulation (EU) No. 10/2011

No objection to the use of the product – see trade name – for direct food contact in the sense of the Framework Regulation (EG) No. 1935/2004 and of Regulation (EU) No. 10/2011 and for the coloration of articles and food packaging in the sense of Resolution AP 89 (1) of the Council of Europe of 13.09.89, if the colorants do not migrate, not even in traces, when the articles are used for the purpose, for which they are intended. Since we, as the manufacturer of the product do not have any influence on subsequent processing, the converter himself is required to test for "fastness to bleeding" in the finished article under conditions approximating to those in practice. Regulation 2023/2006 "Good Manufacturing Practice" is valid.

The monomers, substances and additives of the product are listed in Annex I of Regulation (EU) No. 10/2011.

For the following substances there are applicable Specific Migration Limits SML:

FCM 223 PM Ref. 13630 butadiene ND (not detectable) mg/kg
FCM 433 PM Ref. 68320 octadecyl-3-(3,5-di-*tert*-butyl-4-hydroxyphenyl) propionate SML = 6 mg/kg
FCM 756 PM Ref. 40020 2,4-bis(octylthiomethyl)-6-methylphenol SML(T) = 5 mg/kg
FCM 231 PM Ref. 10120 acetic acid, vinyl ester SML = 12 mg/kg
FCM 178 PM Ref. 92800 CAS 96-69-5 4,4'-Thiobis(6-*tert*-butyl-3-methylphenol) SML 0,48mg/kg
FCM 715 PM Ref. 46880 CAS 65140-91-2 Monoethyl-3,5-di-*tert*-butyl-4- hydroxy-benzylphosphonat, Calciumsalz SML = 6 mg/kg
FCM 141 PM Ref. 13380, 25600, 94960 CAS 77-99-6 1,1,1-Trimethylolpropan SML = 6 mg/kg

Restrictions acc. to Annex II of the Regulation (EU) No. 10/2011:

zinc = 5 mg/kg food or food simulant
aluminum = 1 mg/kg food or food simulant

The concentration of the product in the final article may not exceed max. 10 % w/w.

Dual Use Additives: Titanium dioxide (E171), Aluminum E173, Silicone dioxide E551

Migration testing is the responsibility of the manufacturer of the final food contact article.

Food contact within the USA

Colouring agents

The various colouring agents for the colouring of polymers which come in direct contact with food are approved in the USA by the FDA (Food and Drug Administration) in the CFR (Code of Federal Regulations) § 178.3297 (Colorants for Polymers). The colouring agents included in the product are **all listed in the CFR of the FDA**. FDA is approved until a dosage less or equal **4 % (w/w)** in the final article.

Toys

Following the recommended dosage, the product complies with the **Standard EN 71, part 3 + part 9** "Safety of toys" and with the **Directives (EC) 2009/48, (EC) 88/378** and **ASTM F693-8**. Irrespective of this, please note that the requirements under Article 18 of Directive 2009/48/EC remain applicable and must be observed.

CONEG

The product complies with the **Directive 94/62/EEC** (also CONEG Regulation), which limits the content of the heavy metals Lead, Cadmium, Mercury and Chromium-VI to max. 100 ppm.

Hazardous substances

The mixture is fulfilling the **REACH-Regulation (EC) 1907/2006** with all amendments.

According to the **CLP Regulation (EC) 1272/2008 (GHS)** with all amendments and the **Directive 1999/45/EG** the mixture is neither classified as dangerous nor are there any requirements to labelling.

For our mixture there are not any restrictions according to **ANNEX XVII of the REACH Regulation**.

The product is complying with all requirements of the Directives **2000/53/EC** (end-of-life vehicles) with all amendments, **2002/95/EC (RoHS)**, legally effective until 02. Jan.2013) with all the adjustments, **2011/65/EC** (legally effective from 03. Jan.2013), **2002/96/EG (WEEE)**, **Regulation 1005/2009/EC (Ozone Layer)**, replacing 2037/2000 EC) and is not containing any restricted substance according to the **GADSL list**. The Directive 2001/95/EC „General Product Safety“ is valid.

Product Information

Article number: UN0003
Article description: MB UN WHITE

Compiled: 08.12.2011
Valid since: 15.04.2020

Version: 9
replaces: Version 8
(26.07.17)



The substances listed below are neither used as raw materials nor expected to be generated in the manufacturing process and therefore, they are not expected to be contained in the product. We do not undertake regular analysis: PBT substances (persistent, bioaccumulative, toxic), CMR substances Cat. 1 and 2 (carcinogenic, mutagenic, toxic for reproduction), diarylide pigments, phthalates, latex, bisphenol A (BPA), nonyl phenol, nickel dihydroxide, nickel(II)sulphate, dinickel trioxide, antimony trioxide, cobalt(II)oxide, beryllium(II)oxide, vanadium pentoxide, divanadium pentoxide, silicone, tetrabromobisphenol A (TBBA), benzophenone, 4-hydroxybenzophenone, 4-methylbenzophenone, 2,2-dimethoxy-2-phenylacetophenone, isopropylthioxanthone (ITX), dimethylfumarate (DMF).

The product is not containing any SVHC, nominated by the ECHA acc. to Art. 59 of the REACH Regulation before the validity date of this product information.

PAH

The content of **Benzo[a]pyren** is less than < 0,25 mg/kg. The sum of the **18 PAHs (EPA)** is less than < 5 mg/kg.

BSE/
TSE

The carrier used in the above batch may contain traces of substances of animal origin. The process conditions during the production of these substances meet the criteria for "rigorous process", Eng. "Rigorous processes", according to EMEA 410 01, Rev. 3, Section 6.4. or Regulation 1774/2002/EC, Annex VI, Chapter III. Under these conditions produced **no TSE** risk materials provide longer represent.

conflict minerals

Based on the information of our suppliers, we can confirm that for the manufacture of our product **no conflict minerals** (cassiterite, columbite-tantalite, gold, wolframite and their derivatives) are intentionally used, which come from the democratic republic of congo or neighboring countries. However, please note that our primary products are industrially produced and therefore there can't be ruled out traces of naturally occurring contaminants.

This Product Information does not absolve any converter of the obligation to use the colouring agent properly and to take care of potential incompatibilities with other additives and the polymer of the final article.

If you have any further queries, please do not hesitate to contact us.

Color - Service GmbH & Co. KG
Karlstein / Bayern

i.A. Gabriele Seifert
product safety

This information has been compiled automatically by computer and is therefore valid without signature.

Regulatory Information

Article number:

UN0003

Article description:

MB UN WHITE

Compiled: 31.01.2020

Version: 20.01

Valid since: 31.01.2020

replaces: all previous issues



General information

The product described in this document is a colour masterbatch intended for the colouration of plastic articles. This document contains regulatory information covering multiple topics and legislations.

Manufacturer

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Issued by department

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Food contact status

For information on the food contact status of this product, please contact Color Service.

REACH EC 1907/2006 (as amended)

This product is classified as a mixture in REACH terminology.

All components in this product are REACH registered substances, or exempt from registration.

This product does not contain any substances listed on the Candidate list of Substances of Very High Concern (SVHC list, latest update from before issue date of this document, see header), or listed in Annex IV of the REACH regulation, in amounts over the threshold value of 0.1% (w/w).

This product fulfills the demands regarding PAH's as defined in entry 50 of Annex XVII (as amended by EU 1272/2013); the content of **benzo[a]pyren** is less than 0.25 mg/kg; the sum of 18 PAH's as defined in GS Mark (AfPS GS2014:01) is less than 5 mg/kg.

For detailed information on possible GHS-classified components or possible GHS-classification of the complete product according to the CLP Regulation (EC 1272/2008), please refer to the product's Safety Datasheet.

Packaging and packaging waste (94/62/EC) and CONEG

This product fulfills the demands in 94/62/EC (as amended) and the CONEG Regulation (USA), limiting the cumulative amount of the four heavy metals cadmium, lead, mercury and hexavalent chromium in packaging to the limit of 100 ppm.

Directive 2011/65/EU RoHS (as amended)

This product complies with the RoHS directive limiting the amount of certain substances in electrical and electronic equipment. The product contains, to the best of our knowledge, no hazardous substances in a mass concentration exceeding the maximum permissible concentration according to the RoHS Directive in its current version of 8 June 2011 and its amending Directive 2015/863 / EC:

Lead (0.1%); Mercury (0.1%); Cadmium (0.01%); Hexavalent chromium (0.1%);
Polybrominated biphenyls (PBB) (0.1%); Polybrominated diphenyl ethers (PBDE) (0.1%);
Bis (2-ethylhexyl) phthalate (DEHP) = SVHC; Benzyl butyl phthalate (BBP) = SVHC;
Dibutyl phthalate (DBP) = SVHC; Diisobutyl phthalate (DIBP) = SVHC

Directive 2012/19/EU (WEEE)

Directive 2012/19/EU (WEEE) dictates proper treatment and management of waste electrical and electronic equipment. Article 8 requires selective treatment for specific materials and components defined in Annex VII. In the formulation and manufacture of this product, these substances are not used.

Directive 2000/53/EC (ELV)

This product complies with the ELV directive (2000/53/EC, as amended) limiting the amount of the four heavy metals lead, mercury, cadmium and hexavalent chromium in materials and components of vehicles.

Regulatory Information

Article number:

UN0003

Article description:

MB UN WHITE

Compiled: 31.01.2020

Version: 18.01

Valid since: 31.01.2020

replaces: all previous issues



BSE/TSE

This product does not contain intentionally added substances from animal origin, though traces of such substances cannot be excluded. The process conditions during the manufacture of this product meet the criteria for "rigorous process", according to EMEA 410 01, Rev. 3, Section 6.4 or Regulation 1774/2002/EC, Annex VI, Chapter III. Under these processing conditions TSE risks are eliminated.

Conflict minerals

Regulation EU 2017/821 and Title XV of Dodd-Frank Act (USA, 2010) provide legislation concerning so-called conflict minerals (cassiterite, columbite-tantalite, gold, wolframite and their derivatives to obtain tin, tantalum, gold and tungsten) being sourced in and around the Democratic Republic of the Congo. Based on supplier information, none of these minerals are used in the components that are used in the formulation and manufacture of this product.

California Proposition 65

This product does not contain intentionally added substances that are listed in California Proposition 65, however, this product is not tested for those substances.

This color masterbatch may contain titanium dioxide (Pigment White 6) or carbon black (Pigment Black 7) which are listed in Proposition 65, but are only considered carcinogenic and/or toxic for reproduction in unbound form as intended within the scope of Proposition 65. In color concentrates (masterbatches) these two pigments are only present in bound form, placing them outside the scope of Proposition 65.

Substances not used

The following substances are not used as raw materials nor expected to be generated in the manufacturing process. We do not undertake regular analysis, however.

PBT substances	nickel dihydroxide	vanadium pentoxide
CMR substances Cat. 1 and 2	nickel(II)sulphate	divanadium pentoxide
diarylide pigments	dinickel trioxide	silicone
phthalates	cobalt(II)oxide	tetrabromobisphenol A
latex	beryllium(II)oxide	benzophenone
Bisphenol A (BPA)	dioxine	4-hydroxybenzophenone
asbestos	furan	organotin compounds
dimethylfumarate (DMF)	isopropylthioxantone	ozone depleting substances
nonylphenol and nonylphenol ethoxylates		brominated and chlorinated flame retardants
persistent organic pollutants (POP)		PBB, PBDE, DEHP, BBP, DBP, DIBP
2,2-dimethoxy-2-phenylacetophenone		polychlorinated biphenyls/triphenyls

Nanomaterials (Commission Recommendation 2011/696/EU)

Recommendation 2011/696/EU proposes a standard definition for the term "nanomaterial". Solid particles in this product (e.g. pigment clusters) other than carbon black have dimensions placing them outside the scope of the definition. Carbon black does have principal particles sizes within the definition of nanomaterial. However, carbon black pigment forms aggregates in the 100-300 nm range in color masterbatches, again placing the product outside the scope of the definition. Considering this information, this product (independent of containing carbon black) can be considered not to contain nanomaterial.

If you have any further queries, please do not hesitate to contact us.

This information has been compiled automatically and is valid without signature.

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UNIPETROL RPA, s.r.o.
Záluží 1
CZ-43670 Litvínov
Czech Republic

MATERIAL DECLARATION

Products: PE-HD LITEN, PP MOSTEN (all grades)

In the manufacture of the above products any “Substances of Very High Concern” (see Candidate list for authorisation of ECHA, 181 substances, last updated January 15, 2018) are not used as additives, ingredients or adjuvants in concentration more than 0,1 %.

Eva Budska
UNIPETROL RPA, s.r.o.
Unit EKO
CZ-43670 Litvínov
E-mail: eva.budska@unipetrol.cz
2018-01-16

Disclaimer:

End users must make their own determination that their use of our product is safe, lawful and technically suitable in their intended applications.

No liability can be accepted in respect of the use of UNIPETROL RPA' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

This document was prepared automatically through computer and therefore is not signed.

	ANNOUNCEMENT POLYETHYLENE LITEN (C2/C6 COPOLYMER)	Date of issue: 01.12.2010
		revision: 14.01.2015 – 5 th issue replaces: 24.04.2014 – 4 th issue

Announcement

according to Art. 32 of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH)

The supplied product meets neither the criteria for classification as a dangerous product according to the Regulation (EC) No 1272/2008 of the European Parliament and of the Council (CLP) nor any of the other conditions set in Art. 31 of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH), and therefore there is no obligation to provide MSDS to the customer.

However the supplier is, according to Art. 32 of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH), obliged to provide the information below.

1. SUPPLIER

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 Head of Customer Service: ☎: +420 476 166 196, fax: +420 476 162 697, pavel.stastka@unipetrol.cz
 Product Intelligence and TS: ☎: +420 476 166 247, martin.malicek@unipetrol.cz
 ☎: +420 476 162 912, olga.mertlova@unipetrol.cz

2. REGISTRATION

according to Title II of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH)

According to Art. 2(9) of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH) the product is not subject to registration according to Title II of this Regulation. The monomers are subject to registration according to Art. 6(3), if their content in the polymer is at least 2 % wt.

The product identifiers are as follows:

IDENTIFIER	IDENTIFICATION NAME		IDENTIFICATION NUMBER
Registration	Copolymer Monomer Monomer	Ethylene/Hexene Copolymer Ethylene Hex-1-ene	Registration number: it is not subject to registration 01-2119462827-27-0036 01-2119475505-34
Harmonized classifications	not on the list		not on the list
List of ECHA classification	not on the list		-
International chemical name	Ethylene/Hexene Copolymer		CAS number: 25213-02-9
Types	BB/FB 75, BB/FB 85, BB/FB 85 F, BB 85 S, LS 87, ML/MS 57, ML 67, MB 68, MB 77, MB 87, RL 58, RL 58 UV, VB 85, VL 20 N		

3. AUTHORISATION

according to Title VII of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH)

The product is not given on the authorization list in Annex XIV of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH), and therefore there is no obligation to apply for authorization for its production and use.

4. RESTRICTION

according to Title VIII of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH)

The product is not subject to any restrictions stated in Annex XVII of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH) on production, placing on the market or use.

5. OTHER IMPORTANT INFORMATION FOR RISK MANAGEMENT

None.

	ANNOUNCEMENT POLYETHYLENE LITEN (C2/C6 COPOLYMER)	Date of issue: 01.12.2010
		revision: 14.01.2015 – 5 th issue replaces: 24.04.2014 – 4 th issue

6. OPTIONAL INFORMATION

The following information and recommendations are not obligatorily provided under Article 32 of the Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH). This information is provided in good faith. We recommend to take this information into account and to follow the instructions.

- Available data on physical and chemical properties of the product.
The product is capable of burning, but hardly ignitable. Dust is explosive. The product may be charged electrostatically.
 - Physical state at 20°C, colour, odour solid colourless and odourless product
 - Density [kg.m⁻³] 935-965
 - Melting point [°C] 120-130
 - Bulk density (granules) [kg.m⁻³] 520-580
 - Flash point (granules) [°C] 370
 - Ignition temperature (granules) [°C] 390-400
 - Ignition temperature (settled dust) [°C] 350
 - Ignition temperature (turbid dust) [°C] 445
 - Minimal initiatory ignition energy [J] 1,6
 - Lower explosion limit (dust) [g.m⁻³] 100
 - Combustion heat [MJ.kg⁻¹] 45-46

- Instructions for handling and storage

For safe handling and storage, all the fire-fighting measures and recommended personal protective means (safety goggles, protective gloves, working clothes, sealed footwear) shall be observed.

Storing facilities shall meet the requirements for fire safety of constructions and electrical facilities and shall be in conformity with valid legal regulations. Avoid contact of the product with incompatible materials, with open flame and high temperatures. To maintain the product quality, do not expose it to moisture and direct sunlight. We recommend to store the product in dry, ventilated, roofed storing facility, the premises of which are protected against direct sunlight, or to secure the above-mentioned conditions by another suitable way (tightly closed containers or packaging). The recommended range of storage temperatures is from -20 °C to +50 °C. At below-zero temperatures, it is necessary to pay increased attention to handling of the product. The product distance from any source of heat shall be at least one meter. The recommended storage time for product in closed (sealed) bags at defined storage conditions is maximum one year. At longer storage time, it is recommended to check the material properties prior to processing.

Statement. The data contained are based on the present state of knowledge and current legislation and are in accordance with the legislation in force at the time of document developing. The user is responsible for complying with the requirements of relevant regional legislation.

According to the authorization form on behalf of UNIPETROL RPA s.r.o., elaborated by:
Environmental and standardization department HSE&Q, UNIPETROL SERVICES, s.r.o.



colorplasticchemie
ALBERT SCHLEBERGER GMBH
Schlosserstraße 5 • D 42899 Remscheid

20/05/20

TECHNICAL DATA SHEET

product specification

PE376418UV Grün

light fastness ISO 4892-2-B	: 6-7	suitability for use in:	
weather fastness 3000h/WOM	: 4-5	PS	: not specified
temperature resistance DIN EN 12877-2	: To 260 °C	SB	: not specified
warping characteristics	: warping	PMMA	: not specified
resistance to alkalis 5% NaOH	: not specified	ABS	: not specified
resistance to acides 5% HCl	: not specified	SAN	: not specified
migration resistance	: not specified	PET	: not specified
dosage %	: 3,00	PE	: yes
light type	: D65	PP	: not specified
10/2011/EG	: yes	PA6	: not specified
German BfR IX approved	: yes	POM	: not specified
toys DIN EN 71-3: 2013-07	: not specified	PVC	: not specified
FDA 21.CFR 178.3297	: no	PC	: not specified
without ultramarine pigment	: yes	TPU	: not specified
without cadmium pigment	: yes		
without lead pigment	: yes		
without diaryl pigment	: yes		
Free of organohalogen compounds	: not specified		
Free of animal-derived components	: not specified		

Die angegebene Wetterechtheit bezieht sich auf UV-stabilisierte Batche, Pigmente und Flüssigfarben oder auf UV-stabilisiertes Kundenmaterial.

Color adjustment contains UV stabilizers or other additives.
The specified fastnesses are only valid for the addition indicated by us.

The technical advice that we give on applications orally, in writing and through experiments is passed on in accordance with the current state of our knowledge. Such advice does not hoever release you from the requirement to carry out your own tests to determine wether the products we supply are suitable for the processes and purposes for which you intend them. Application, use and processing of the products are matters outside our area of control and therefore lie exclusively in your area of responsibility. Any patent rights of third parties existing are to be taken into account. We guarantee the proper quality of our products in accordance with our General Terms of Sale and Delivery.

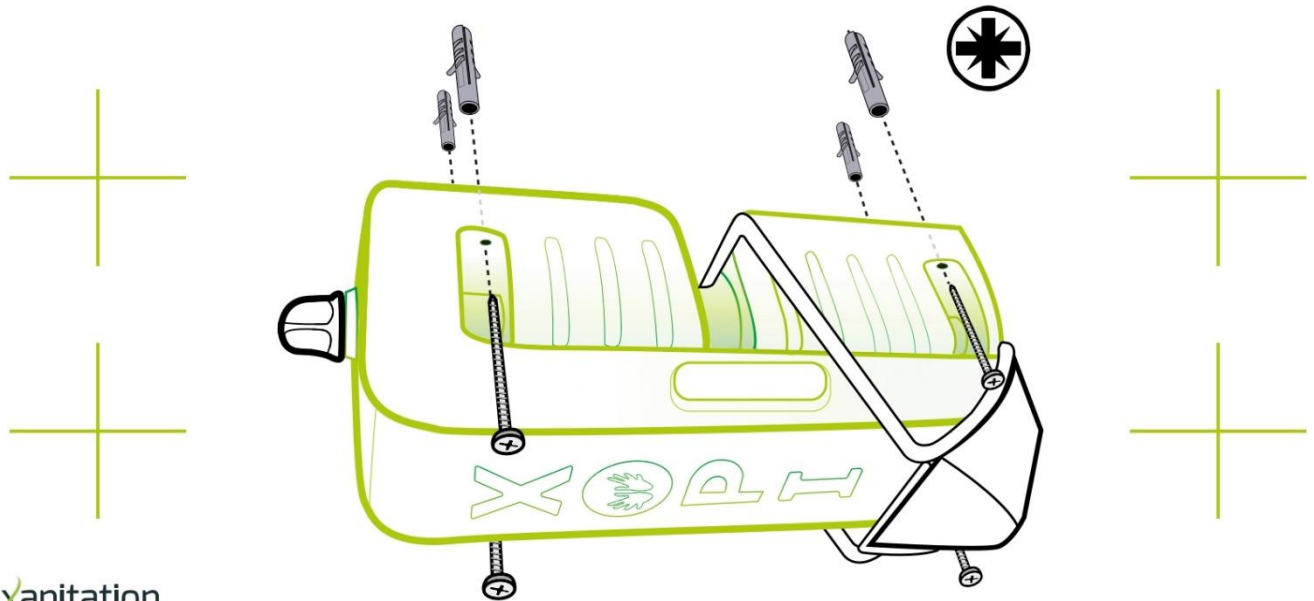
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Registergericht Wuppertal
HRB 11218

Stadtsparkasse Wuppertal
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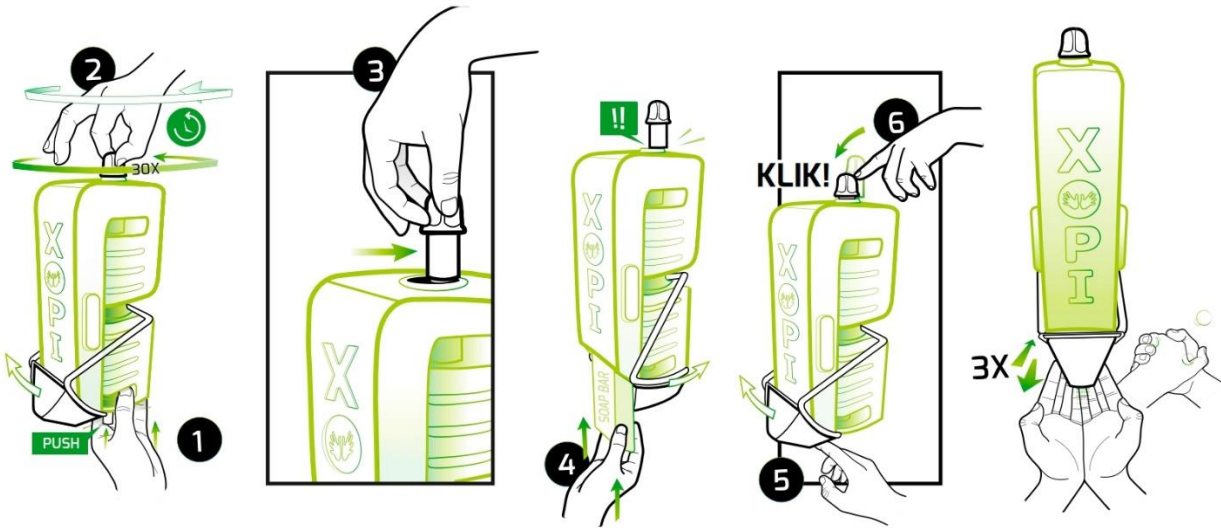
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SOLUTIONS

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