

SAFETY DATA SHEET



ENVIROGRAF®

HS013K-07-2020

Product Number: 13

WPCS/K Range

Description:

WPCS/K Intumescent collars for pipes 400mm diameter up to 900mm diameter with wall thickness from 3mm, either PVC or polypropylene.

Under Regulation 1907/2006 REACH Safety Data Sheets are only required for hazardous substances and mixtures/preparations; Intumescent Systems Ltd is not therefore legally obliged to supply Safety Data Sheets for its articles. Despite this Intumescent Systems Ltd has decided to provide its customers with information regarding the safe use and handling of the products listed above by means of this Safety Data Sheet.

This product comprises of the following materials and therefore is supported by the following Health & Safety Data Sheets:

- (Appendix 1) Health & Safety Sheet Intumescent
- (Appendix 8) Health & Safety Sheet Foil Tape
- Health & Safety Sheet Zintec Metal (not available)
- (Appendix 17) Health & Safety Sheet HW01
- (Appendix 100) Health & Safety Sheet Fiberglass
- (Appendix 98) Health & Safety Sheet Hardener
- (Appendix 99) Health & Safety Sheet Adhesive

*The information contained in this safety data sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information. The information given in this data sheet does not constitute or replace the user's own assessment of workplace risk as required by other health and safety legislation.

HEALTH & SAFETY DATA SHEET
APPENDIX 1
MULTIGRAF INTUMESCENT MATERIAL

Issue 3. July 2018

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME: Multigraf Intumescent Material
MANUFACTURER/SUPPLIER: Intumescent Systems Ltd
ADDRESS: Envirograf House, Barfreestone, Dover, Kent, CT15 7JG
TELEPHONE / FAX / EMAIL: 01304 842555 01304 842666 sales@envirograf.com
EMERGENCY PHONE NUMBER: 01304 842555 (Monday to Friday 8.30 – 5.30)

2. HAZARDS IDENTIFICATION

HAZARD STATEMENTS:

1. None for the non-woven products (manufactured articles) covered by this MSDS
2. None for dust and fibres released during handling

Cutting through the material and surface scuffing may release small amounts of airborne fibre, clay and carbon dust which are mechanically irritant to skin, eyes and upper respiratory system.

As with any dust, pre-existing upper respiratory symptoms and lung diseases may be aggravated.

Under the European chemicals Regulation 1907/2006 REACH this product is considered to be an article. These materials do not contain any substances of very high concern or substances intended to be released under normal foreseeable conditions of use.

Under Regulation 1907/2006 REACH Safety Data Sheets are only required for hazardous substances and mixtures/preparations; Intumescent Systems Ltd is not therefore legally obliged to supply Safety Data Sheets for its non-woven products.

Despite this Intumescent Systems Ltd has decided to provide its customers with information regarding the safe use and handling of the products listed above by means of this Material Safety Data Sheet

3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPOSITION:

Substance	CAS / EC No	% by weight	Classification and labelling Regulation EC 1272/2008	Classification and labelling Directive 67/548/EEC
Mineral Wool*	287922-11-6	20 – 85	Not Classified	Not Classified
Exfoliating Graphite	7782-42-5/231-995-3	4.0 – 60	Not Classified	Not Classified
Polymeric Binder and Self Adhesive coating	N/A - polymer	5.0 - 30	Not Classified	Not Classified

* Man-made vitreous silicate fibres of random orientation with alkaline oxide and alkali earth oxides (Na₂O + K₂O+CaO+MgO+BaO) content greater than 18% by weight and fulfilling one of the Note Q conditions for increased bio-solubility.

Mineral wool fibres satisfying the Note Q conditions for increased bio-solubility are not classified as carcinogenic according to Directive 97/69/EC and Regulation EC 1272/2008 (page332 of the JOCE L353 of 31 Dec 2008)

Self-adhesive products are supplied faced on one side with a Kraft release paper.

4. FIRST AID MEASURES

SKIN: Rinse affected areas with water and wash gently with soap. Do not use detergent.

EYES: Flush eyes with large quantities of water, Have eye bath readily available in areas where eye contact may occur. Seek medical attention if irritation continues.

INGESTION: Drink plenty of water. Seek medical advice.

INHALATION: Remove to fresh air, drink water and clear throat and blow nose to evacuate fibre/dust. Seek medical attention.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Use extinguishing agent suitable for type of surrounding combustible materials. Do not inhale products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Do not allow dust to be wind blown.

Unwanted product should be collected and stored in sealed bags.

Do not use compressed air to remove dust or fibres from equipment

Dust/fibre should be removed using a suitable vacuum cleaner with HEPA exhaust air filtration.

The collected deposits and used vacuum cleaner bags should be sealed into poly-bags before disposal.

If sweeping is required the area should be thoroughly damped down with water before sweeping commences to prevent dust and fibres becoming airborne during sweeping

7. HANDLING AND STORAGE

HANDLING: Keep dust generation to a minimum.

STORAGE: Store dry and cool. Keep in original wrapping until required for use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

APPLICABLE OCCUPATIONAL EXPOSURE LIMITS: from HSE EH40/2005 – second edition 2011

MACHINE MADE MINERAL FIBRE:

(excluding Refractory Ceramic Fibre and Special Purpose Fibres): 2.0 fibres/ml & 5 mg/m; (8 hr TWA)

FINE CARBON DUST: 3.5 mg/m; (8 hr TWA) and 7 mg/m; (15 minute reference))

RESPIRATORY PROTECTION: Use local ventilation systems where available. If workplace exposures exceed the limits wear disposable dust respirator to EN149:2001 FFP2 minimum

HAND PROTECTION: Use of disposable nitrile rubber gloves is recommended.

EYE PROTECTION: Wear goggles or safety glasses with side shields. Do not wear contact lenses.

SKIN PROTECTION: Wear overalls that are loose fitting at the neck and wrists.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Flexible Grey fibrous mat with black speckle

DENSITY: 200 - 500 kg/m³

EXPANSION: Rapid volumetric expansion occurs when product is heated above 200°C

FLAMMABILITY: Material will sustain combustion for a short period until organic binder (and SAB coating) is burnt out or resulting expansion self-extinguishes.

10. STABILITY AND REACTIVITY

STABILITY / CONDITIONS TO AVOID: Stable.

MATERIALS TO AVOID: Strong oxidizing agents, strong alkalis and hydrofluoric acid.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition of the polymeric binder will occur at temperature above 200°C releasing smoke, H₂O, CO, CO₂ and hydrocarbons. When heated above 250°C the graphite will expand resulting in a thermally insulation char.

HAZARDOUS POLYMERISATION: Will not occur

11. TOXICOLOGICAL INFORMATION

MINERAL WOOL FIBRE:

Coarse fibres: in common with other man-made mineral fibres the vitreous silicate fibres in this product are mechanical irritants which may result in temporary irritation of the throat, eyes or skin.

Respirable fibres: the mineral wool fibres in these products contain fibres which are less than 3.0µm diameter and greater than 5.0µm long and which are classified as respirable.

Animal studies: short term inhalation studies of rats exposed to high levels of stone wool fibres have shown that the long fibres are biodegradable and quickly disappear from the lungs.

Human Epidemiological studies: large morbidity and mortality studies of both European and North American mineral wool manufacturing workers have been conducted with traditional mineral wools. The studies found no significant evidence of non-malignant lung disease (e.g. fibrosis) The studies did not establish a causal relationship between exposure to traditional mineral wools and malignant diseases (lung cancer or mesothelioma). The particular mineral wool fibre used in the products covered by this SDS is based on a new formulation with increased bio-solubility giving even more rapid clearance of fibres from the lungs compared with traditional mineral wools.

GRAPHITE:

Powdered graphite is non-toxic. High levels of airborne graphite dust may be a mechanical eye irritant. Skin contact with graphite dust may cause temporary irritation due to mechanical effects; repeated prolonged exposures may lead to dermatitis. Airborne graphite dust is an upper respiratory irritant; exposures may aggravate pre-existing upper respiratory and lung diseases. Cases of pneumoconiosis, pulmonary fibrosis and emphysema have been reported in workers following prolonged exposures to high levels of airborne graphite dust.

POLYMERIC BINDER AND SELF ADHESIVE COATING:

The Polymeric binder and SAB coating are considered to be non-hazardous.

12. ECOLOGICAL INFORMATION

This product will remain stable over time with the inorganic components remaining inert.

13. DISPOSAL CONSIDERATIONS

Waste is not classified as a hazardous waste and may be disposed of at a normal licensed industrial waste site. Local regulations should be considered. Waste should be bagged or suitably contained for disposal to prevent any dusts being wind blown during disposal.

14. TRANSPORT INFORMATION

Not regulated for Transport. Ensure that dust is not windblown during transportation. Ensure that dust or fibres are not wind-blown during transportation.

15. REGULATORY INFORMATION

Product Hazard Classification according to Directive 67/548 EEC:

Not classified

Product Hazard Classification according to Regulation CE1272/2008:

Article - not classified

16. OTHER INFORMATION

Notes: revised and reissued with minor changes 6th September 2018

Further information regarding working with man made mineral fibres and measurement techniques may be obtained by referring to Guidance Note EH46 1990 and NDHS59 1998 published by the UK, Health & Safety Executive.

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HEALTH & SAFETY INFORMATION SHEET
APPENDIX 8
FOIL-ADHESIVE TAPE

25th July 2018 ISSUE 3

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME:	Foil-Adhesive Tape
MANUFACTURER/SUPPLIER:	Envirograf
ADDRESS:	Envirograf House, Barfrestone, Dover, Kent, CT15 7JG
TELEPHONE/FAX/EMAIL:	01304 842555 01304 842666 sales@envirograf.com
EMERGENCY PHONE NUMBER:	01304 842555 (Monday to Friday 8.30 – 5.30)

2. HAZARDS IDENTIFICATION

This product is considered generally safe and inert and no hazards are anticipated provided good standards of industrial hygiene and good housekeeping are observed

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical description: contains no dangerous ingredients or impurities
Interleaved aluminium foil tape with hot melt adhesive

4. FIRST AID MEASURES

Eye Contact: No need for first aid is anticipated
Skin Contact: No need for first aid is anticipated
Inhalation: The slight odour from the adhesive is not considered dangerous or an irritant – seek fresh air if necessary

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide, dry chemical. Note: water should not be used.

Protective equipment for fire-fighters: Self-contained respiratory equipment should be worn

6. ACCIDENTAL RELEASE MEASURES

Not applicable

7. HANDLING AND STORAGE

Due regard should be given to the possibility of static build up within the rolls and their particular applications especially where solvents are used or stored

It is recommended that these products be stored out of direct sunlight, in a dry environment away from moisture at temperatures between 5°C and 30°C

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Finger damage is always a risk when aluminum foil and paper products are decoiled or applied. The use of lightweight leather gloves is recommended. Discarded release paper is a slip hazard and just not be left on any floor space but disposed of together with spent cores into suitable waste containers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: solid
Colour: silver
Boiling point: not applicable
Vapour pressure: not applicable
Solubility in water: the adhesive is not soluble in water
Viscosity: not applicable
Melting point: the adhesive will soften at around 70°C
Flash point: 200°C

10. STABILITY AND REACTIVITY

Stable under normal conditions of handling and storage

11. TOXICOLOGICAL INFORMATION

Not applicable

12. ECOLOGICAL INFORMATION

Not applicable

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations at approved sites.

14. TRANSPORT INFORMATION

Not regulated for transport

15. REGULATORY INFORMATION

Foil Adhesive Tape is an "article" not a chemical. It is not classified as dangerous under Classification, Labelling and Packaging of Chemical Regulations (CPL) & the UN's Globally Harmonised System (GHS), and therefore does not require a Safety Data Sheet. It is exempt from the requirements to register under REACH. As a service to our customers, however Intumescent Systems Ltd has produced this data sheet.

16. OTHER INFORMATION

History

Date of revision 25th July 2018

Reason for revision General review / change of format

Sections revised All sections revised

The information contained in the Health and Safety Data Sheet is provided in accordance with the requirements of the most recent REACH Regulations. The product should not be used for purposes other than those shown without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. This information contained in the safety data sheet is based on present knowledge and current EU legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

HEALTH & SAFETY INFORMATION SHEET
APPENDIX 17
EPCP – HW01 – ES/VFR W – HW01FLEX – STEEL PAINT – QVFRW

20th March 2018

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME: **AS ABOVE**
MANUFACTURER/SUPPLIER: Envirograf
ADDRESS: Envirograf House, Barrestone, Dover, Kent, CT15 7JG
TELEPHONE/FAX/EMAIL: 01304 842555 01304 842666 sales@envirograf.com
EMERGENCY PHONE NUMBER: 01304 842555 (Monday to Friday 8.30 – 5.30)
PRODUCT USE: Coatings: Waterborne paint

2. HAZARDS IDENTIFICATION

Health effects:



Hazard Symbol

May product an allergic reaction

Skin

May cause slight irritation on prolonged / repeated contact.

Eyes

May cause some irritation.

Inhalation

No hazard under normal conditions of use.

Ingestion

Low toxicity.

Physical/chemical effects

Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization Aqueous (emulsion) polymer system.

Hazardous components:-

Biocidal ingredients-contains:

- 2-methyl isothiazol-3(2H)-one. < 0.0006%. CAS No. 2682-20-4 H301 / H330 / H314 / H318 / H317 / H400
- Pyrithione Zinc < 0.0006% Cas No. 13463-41-7 H301 / H330 / H318 / H400 / H 410
- 1,2-benzisothiazol-3(2H)-one <0.0006% Cas No. 2634-33-5 H330 / H318 / H315 / H317
- 5-chloro-2-methy-3(2H)-isothiazolone / 2 – methyl3(2H)-isothiazolone (3:1) < 0.0000026% H311 / H330 / H314 / H317 / H400 / H410 / H318

Labeling with: EUH208 Contains - 5-chloro-2-methy-3(2H)-isothiazolone / 2 – methyl3(2H)-isothiazolone (3:1) - May cause allergic reaction.

4. FIRST AID MEASURES

Skin contact: Remove contaminated clothing and wash contaminated skin with soap and water.

Eye contact: Wash with water for several minutes. If irritation persists seek medical advice.

Inhalation: Remove the casualty to fresh air.

Ingestion: Rinse out mouth with water and if conscious drink plenty of water. Seek medical attention.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Foam, carbon dioxide, powder, and water spray.

Extinguishing media which must not be used for safety reasons: None known.

Special exposure hazards: None known.

Special protective equipment for fire-fighters: Chemical protection suit / gloves / boots and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protection equipment.

Environmental precautions: Do not dispose of into surface water or sanitary sewer system.

Methods for cleaning up: Scrape up excess and dispose of at an approved site.

7. HANDLING AND STORAGE

Handling precautions: Not applicable.

Storage conditions: Store in closed containers between + 5°C and + 30°C in dry conditions. Avoid extremes of temperature.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters: Not applicable.

Engineering measures: Not applicable.

Personal protection equipment:

Respiratory protection: Not applicable.

Hand protection: Gloves.

Eye protection: Goggles.

Skin and body protection: Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour	White	Explosive properties	Not applicable.
Form	White paint	Oxidizing properties	Not applicable.
Odour	Low odour .	Vapour pressure	Not applicable.
pH as supplied	7.2 – 8.2	Bulk density	1.28 to 1.31 g/cm ³
Boiling point/range	Not determined.	Solubility:	
Melting point/range	Not applicable.	Water solubility	Miscible.
Flash point	Not applicable.	Partition coefficient	Not applicable.
Flammability (solid, gas)	Not applicable.	(n-octanol/water)	
Auto ignition temperature	Not applicable.	Other data	

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to avoid: Avoid extremes of temperature especially frost and freezing conditions.

Materials to avoid: None, under normal conditions of use.

Hazardous decomposition products: No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Not Applicable

12. ECOLOGICAL INFORMATION

Not Applicable

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations at approved sites.

14. TRANSPORT INFORMATION

UK road/rail	Not applicable. None hazardous.
IMDG	Not applicable. None hazardous.
ICAO	Not applicable. None hazardous.
ADR	Not applicable. None hazardous.

15. REGULATORY INFORMATION

Supply classification:



Hazard symbol(s):

May product an allergic reaction.

Trace elements carry the following H-phrases for their bulk material:

H301 H302 H311 H314 H315 H317 H318 H330 H400 H410 H411

Safety phrases:

S2 – Keep out of the reach of children
S23 – Do not breathe vapour/spray.

16. OTHER INFORMATION

Recommended use	Decorative coating with fire retardant properties.
Further information	Consult technical data sheet.
History	
Date of printing	14 July 2020
Date of issue	March 2018
Version	5
Prepared by	Intumescent Systems Limited

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HEALTH & SAFETY INFORMATION SHEET
APPENDIX 100
Glass Fiber

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME: Glass Fiber
MANUFACTURER/SUPPLIER: Envirograf
ADDRESS: Envirograf House, Barfreestone, Dover, Kent, CT15 7JG
TELEPHONE/FAX/EMAIL: 01304 842555 01304 842666 sales@envirograf.com
EMERGENCY PHONE NUMBER: 01304 842555 (8.30am – 5.30pm)

2. HAZARDS IDENTIFICATION

With regard to their composition, these products are articles and not classified as hazardous according to European Directive 67/548/EEC and 99/45/EC and ST/SG/AC.10/30/Rev.2 and their latest amendments. Glass Fiber products do not contain hazardous substances which can be released under normal or reasonably foreseeable conditions.

Classification of the substance or mixture : GHS Classification

Hazard class	Category
Skin irritation	Category 3
Eye irritation	Category 2B
Acute toxicity	Category 5

GHS label elements

Signal word Warning

Hazard statements

H316-	Causes mild skin irritation.
H320-	Causes eye irritation.
H303-	May be harmful if swallowed.
H333-	May be harmful if inhaled.

Symbol No pictogram

Precautionary statements

Prevention : Wash skin thoroughly after handling
Wear protective eye/face protection

Response : IF ON SKIN: rinse with soap and water. Make sure to refrain from rinsing with warm water since warm water will make the skin pores open to allow fiberglass to penetrate more deeply. If fiberglass penetrates the skin, use a wash cloth to help pull out the fiberglass.
IF IN EYE: Immediately flush eyes with clean water for at least 15 minutes. If irritation persists, get medical help.
If inhalation occurs: immediately remove the affected person to fresh air. If irritation persists, get medical help.
If ingestion occurs: watch the person for several days to make sure that gastrointestinal disturbance does not occur. Do not let the person vomit unless required by medical personnel.

Other hazards: Not available.

This product is not classified hazardous according to European Regulation No. 1272/2008.

This section identifies the potential hazards related to the article i.e. its shape, its dimensions and other physical characteristics.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Product Name	Glass, %	Sizing, %	Binder, %	Water, %
Assembled Roving	98.75±0.75	1.05±0.75	✓	≤0.20
Direct Roving	99.28±0.58	0.62±0.48	✓	0.10±0.1
Dry Chopped Strands	99.08±0.82	0.82±0.75	✓	≤0.10
Wet Chopped Strands	89.90±2.10	0.10±0.10	✓	10.0±2.0
Flame Retardant Fiber Glass	99.08±0.82	0.82±0.75	✓	≤0.10
Woven Roving	99.33±0.53	0.57±0.43	✓	0.10±0.1
Power Chopped Strand Mat	95.40±2.95	0.85±0.50	3.65±2.35	0.10±0.1
Emulsion Chopped Strand Mat	94.85±1.80	0.85±0.50	4.20±1.20	0.10±0.1
Glass Filament Yarn	98.90±0.30	1.00±0.20	✓	0.10±0.1
Cut Strands	88.50±3.50	✓	✓	11.5±3.5
Marketable Cake	99.45±0.25	0.45±0.15	✓	0.10±0.1
Texturized Roving	99.55±0.35	0.35±0.25	✓	0.10±0.1
Milled Fiber	98.98±0.82	0.82±0.75	✓	≤0.20

CAS No. :

Glass Fiber: 65997-17-3

Sizing: N/A

Sizing

Sizing is a mixture of chemicals applied to the strand surface. It mainly consists of high-molecular polymers of no reactivity (usually natural ingredients, such as starch) which are not listed in the appendices of EINECS or ELINCS.

In some cases, sizing may also contain substances of organic-silane family or other substances. The manufacturer considers this risk as negligible as, even though listed as hazardous substance, their concentration is extremely low (under 0.1% of total weight) and they are polymerised during the production of glass fibers.

4. FIRST AID MEASURES

Skin Contact:	If irritation occurs to the skin, rinse with soap and water. Make sure to refrain from rinsing with warm water since warm water will make the skin pores open to allow glass fiber to penetrate deeper. If glass fiber penetrates the skin, use a wash cloth to help pull out the glass fiber. Do not rub or scratch affected skin to any further deterioration. Please go to a doctor if irritation increases. Make sure to refrain from using compressed air to remove glass fiber from skin.
Eye Contact:	Immediately flush eyes with clean water for at least 15 minutes. Please go to a doctor if irritation increases.
Inhalation:	Immediately move to fresh air. Please go to a doctor if irritation increases.
Ingestion:	Normally, ingestion is less than likely. If it does occur, keep the person under observation for several days to make sure that no gastrointestinal disturbance occurs. Do not induce vomiting unless required by medical staff. Please go to a doctor if irritation

5. FIRE-FIGHTING MEASURES

Continuous glass fiber products are neither flammable nor combustible.

Only the sizing and the packing materials are combustible and could release small quantities of hazardous gas in case of major and prolonged heat or fire.

Hazardous Combustion Products:

Primary combustion products are carbon monoxide, hydrogen, carbon dioxide and water. Other undetermined compounds can be released in small quantities.

Fire-Fighting Methods:	Use dry chemical, foam, carbon dioxide and water as extinguishing media.
Fire-Fighting Instructions:	Fire fighters should use self-contained breathing apparatus and wear full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Avoid contact with the skin and the eyes.

Environmental precautions:

Prevent further leakage or spillage if safe to do so.

Methods for Clean-up:

Pick up and transfer to properly labeled containers.

Avoid dry sweeping.

Shovel the major part of spilled material into a container.

Use an industrial vacuum cleaner with a high efficiency filter to clean up dust and residual spilled material.

After vacuum cleaning, flush away with water.

7. HANDLING AND STORAGE

Handling:

Try to prevent the packing material from being damaged and keep the product inside the packing material to minimize the generation of dusts. Maintain a clean work environment and avoid generation of glass fiber fragments from improper handling.

Storage:

Keep the product in its packaging until use to minimize potential dust generation

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Continuous glass fibers are not respirable. However, certain mechanical processes might generate airborne dust or fibers. The occupational exposure limits below mentioned are applicable to airborne fiber exposure and/or to dust exposure.

Exposure limits :

NOTE: The user of continuous glass fibers products has to comply with the national regulations on occupational health protection. Occupational exposure limit values in some European countries are illustrated as below. (8-hour work day)

	Respirable dust	Total Dust	Respirable Fiber
ACGIH	3 mg/m ³	10 mg/m ³	1fiber/ml
Austria	6mg/m ³	/	0.5fiber/ml
Denmark	5 mg/m ³	10 mg/m ³	1fiber/ml
Finland	/	10 mg/m ³	1fiber/ml
France	/	10 mg/m ³	1fiber/ml
Germany	3 mg/m ³	4 mg/m ³	0.25fiber/ml
Ireland	5 mg/m ³	/	2fiber/ml
Italy	3 mg/m ³	10 mg/m ³	1fiber/ml
Netherlands	2 mg/m ³	10 mg/m ³	1fiber/ml
Norway	5 mg/m ³	10 mg/m ³	1fiber/ml
Portugal	/	4 mg/m ³	1fiber/ml
Spain	3 mg/m ³	10 mg/m ³	1fiber/ml
United Kingdom	5 mg/m ³	10 mg/m ³	2fiber/ml

Engineering Control :

Production areas are closed off and a required relative humidity is maintained.

Respiratory Protection :

Wear a suitable mask when working in an environment where dust concentration is high.

Eye Protection :

Wear safety glasses and face shield.

Body Protection :

Normal loose working clothing (long-sleeved shirts and long pants) is recommended.

Skin irritation occurs primarily at the contact areas such as around the neck and waist.

Hand Protection :

Wear gloves. Skin irritation occurs primarily at the contact areas such as wrists and between the fingers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Product Appearance and Properties:

White or off-white solid: No odor.

Flash Point: Not applicable

pH Value: Not applicable.

Ignition Temperature: Not applicable.

Melting Point:>800°C.

Explosion Upper Limit: Not applicable.

Boiling Point: Not applicable.

Explosion Lower Limit: Not applicable.

Relative Density: 2.6 Times that of water.

Solubility (in Water): Insoluble

Relative Vapor Density: Not applicable

Product Use:

Glass fiber is an inorganic nonmetal material and is used for plastic reinforcement, acoustic absorption and insulation

10. STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal conditions.

Materials to Avoid:

None.

Conditions to Avoid:

None.

Possibility of Hazardous Reactions:

Hazardous reaction does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity :

None.

Local Effects:

Dusts and fibers may cause irritation to eyes and skin. The irritation disappears when the exposure ceases.

Inhalation may cause coughing, nose and throat irritation and sneezing. High exposures may cause difficult breathing, chest distress and congestion. Mechanical irritation is not considered as a health hazard under the European directive 76/548/EC on hazardous substances. It is required to classify continuous glass fibers as an irritant under the European directive 97/69/EC.

Long Term Health Effects:

The International Agency for Research on Cancer (IARC), agency of the World Health Organization (WHO), has determined that glass fiber is a non-carcinogenic material because the evidence is inadequate to prove that glass fiber can cause humans and experimental animals to develop cancer.

Continuous glass fibers do not possess cleavage planes which would allow them to split length-wise into fibers with smaller diameters, rather they break across the fiber, resulting in fibers which are of the same diameter as the original fiber with a shorter length and a small amount of dust.

Continuous glass fibers are not carcinogenic. (See section 15)

12. ECOLOGICAL INFORMATION

Glass fiber products are not listed as a material harmful to animals, plants and fish.

No specific data available for glass fiber products at present.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class:

Non-Hazardous.

European code number for waste is 101103.

Disposal Instructions:

Dispose waste materials as per local environmental regulations

14. TRANSPORT INFORMATION

IMDG/IM-RID-ADR-ICAO-IATA-DOT-TDG-MEX

Not regulated

Transport Instructions:

Rolling and moisture should be avoided in transit.

15. REGULATORY INFORMATION

This product is not hazardous according to European Directive 99/45/EC, 67/548/EEC and their latest amendments.

Information on Non-carcinogenicity:

According to EU Directives, the continuous glass fibers in these products are not classified as carcinogenic.

Continuous glass fibers are not within the scope of Amendment 97/69/EC of Directive 67/548/EEC since they are not "fibers with random orientation".

The International Agency for Research on Cancer (IARC) categorized continuous glass fiber as not classifiable with respect to human carcinogenicity (Group 3) in June 1987 and October 2001. The evidence from human, as well as, animal studies was evaluated by IARC as insufficient to classify continuous glass fiber as a confirmed, probable or even possible cancer causing material.

National Chemicals Inventory

Based on the rules enforced with regards to the marketing and use of chemicals in countries where our Jushi products are manufactured, each chemical ingredient of these finished products has to be listed on the National Chemicals Inventory of the specific country where the products are produced.

However, continuous glass fiber products are "articles" under the chemicals inventories listed below and consequently are exempt from listing on these inventories:

The European Inventory of Existing Chemical Substances: EINECS/ELINCS,

The US EPA Toxic Substance Control Act: TSCA,

The Canadian Chemical Registration Regulations: NDSL/DSL,

The Japanese Chemical Substances Control Law under METI: CSCL,

The Australian Inventory of Chemical Substances: AICS,

The Philippine Inventory of Chemicals and Chemical Substances: PICCS,

The Korean Existing Chemicals List: (K) ECLand

The Chinese List on New Chemical Substances.

16. OTHER INFORMATION

Preparation Date February 2016

Prepared by QA&EHSDept

Data Verified by Vice President of Jushi Group

Modification Information The Five Version, The First modification This document has been issued to align with REACH Regulation.

Disclaimer

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of accuracy or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

HEALTH & SAFETY INFORMATION SHEET
APPENDIX 98
Hardener

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME: Hardener
MANUFACTURER/SUPPLIER: Envirograf
ADDRESS: Envirograf House, Barfrestone, Dover, Kent, CT15 7JG
TELEPHONE/FAX/EMAIL: 01304 842555 01304 842666 sales@envirograf.com
EMERGENCY PHONE NUMBER: 01304 842555 (8.30am – 5.30pm)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Product definition Mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Flam. Liq. 3, H226
Acute Tox. 4, H332
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317
Carc. 2, H351
Repr. 2, H361d (Unborn child)
STOT SE 3, H335
STOT RE 1, H372
Aquatic Chronic 3, H412
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

Label elements

2.2 Label Elements

Labelling (REGULATION (EC) No 1272/2008)

Pictogram



Signal word	Danger	
Hazard statements	H242 H302 + H332 B	Heating may cause a fire. Harmful if swallowed or if inhaled H314 Causes severe skin burns and eye damage.
Precautionary statements	Prevention: P220 P234 P261 P280	Keep away from dirt, rust, chemicals in particular. Keep only in original container. Avoid breathing mist, vapours or spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.
	Response:	

P303 + P361 + P353 IF ON SKIN (or hair): Take of immediately all contaminated clothing.
Rinse skin with water/shower.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call
a POISON CENTER/doctor.

Hazardous components which must be listed on the label:

Methyl ethyl ketone peroxide;Reaction mass of butane- 1338-23-4
2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane

2.3 Other Hazards

No further data available

PBT and vPvB assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	C.A.S number	Classification	%
Methyl ethyl ketone peroxide;Reaction mass of butane- 2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane	1338-23-4 215-661-2 01-2119514691-43	Org. Perox. A; H240 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318	30 – 37
Methyl ethyl ketone	78-93-3 201-159-0	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	1 – 3

For the full text of the H-Statements mentioned in this Section, see Section 16.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Status : Not applicable

4. FIRST AID MEASURES

4.1 Description of first aid measurements

General Advice	Immediate medical attention is required. Move out of dangerous area. Show this safety data sheet to the doctor in attendance
If inhaled	If breathed in, move person into fresh air. Consult a physician after significant exposure.
In case of skin contact	Take off contaminated clothing and shoes immediately. Rinse immediately with plenty of water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
In case of eye contact	Rinse with plenty of water. Get medical attention immediately. Continue to rinse during transport. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
If swallowed	Clean mouth with water and drink afterwards plenty of water.

Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
Do not induce vomiting! May cause chemical burns in mouth and throat.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
Risks	Harmful if swallowed or if inhaled. Causes serious eye damage. Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting / Specific hazards arising from the chemical	CAUTION: reigniting may occur. Supports combustion. Water spray may be ineffective unless used by experienced firefighters. Heating may cause decomposition with release of toxic fumes.
Combustion products	Fire will produce smoke containing hazardous combustion products (see section 10).

5.3 Advice for firefighters

Special protective equipment for firefighters	In the event of fire, wear self-contained breathing apparatus
Further information	Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment. Wear respiratory protection. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
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6.2 Environmental precautions

Environmental precautions Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up / Keep wetted with water.
Methods for containment Soak up with inert absorbent material and dispose of as hazardous waste.
Confinement must be avoided.
Never return spills in original containers for re-use

6.4 Reference to other sections

Additional advice For personal protection see section 8.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling For personal protection see section 8.
Avoid formation of aerosol.
Do not breathe vapours or spray mist.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection
against fire and
explosion Use explosion protected equipment.
Keep away from sources of ignition - No smoking.
No sparking tools should be used.
Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal
compounds (e.g. accelerators, driers, metal soaps).
Do not cut or weld on or near this container

Temperature class It is recommended to use electrical equipment of temperature group T3. However,
auto ignition can never be excluded.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for
storage areas and
containers No smoking. Electrical installations / working materials must comply with the
technological safety standards.
Keep only in original container. Store away from other materials.

Maximum storage
Temperature 25 °C

Other data No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) Consult the technical guidelines for the use of this substance/mixture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Dimethyl phthalate	131-11-3	TWA	5 mg/m ³	2005-04-06	GB EH40	
		STEL	10 mg/m ³	2005-04-06	GB EH40	
		TWA	5 mg/m ³	2005-04-06	GB EH40	
		STEL	10 mg/m ³	2005-04-06	GB EH40	
Methyl ethyl ketone peroxide; Reaction mass of butane-2,2- diyl dihydroperoxide and di-sec-butylhexaoxidane	1338-23-4	STEL	0.2 ppm 1.5 mg/m ³	2005-04-06	GB EH40	
Methyl ethyl ketone	78-93-3	TWA	200 ppm 600 mg/m ³	2000-06-16	2000/39/EC	
	Further information	Indicative				
		STEL	300 ppm 900 mg/m ³	2000-06-16	2000/39/EC	
	Further information	Indicative				
		TWA	200 ppm 600 mg/m ³	2005-04-06	GB EH40	
	Further information	Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	300 ppm 899 mg/m ³	2005-04-06	GB EH40	
	Further information	Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
Dimethyl phthalate	131-11-3	TWA	5 mg/m ³	2013-03-01	ACGIH	
	Further information	URT irr: Upper Respiratory Tract irritation eye irr: Eye irritation				
		TWA	5 mg/m ³	2013-10-08	NIOSH REL	
		TWA	5 mg/m ³	1997-08-04	OSHA Z-1	
		TWA	5 mg/m ³	1989-01-19	OSHA P0	

		TWA	5 mg/m3	2007-01-01	ACGIH	
	Further information	:	Eye & Upper Respiratory Tract irritation			
		TWA	5 mg/m3	2005-09-01	NIOSH REL	
		TWA	5 mg/m3	1997-08-04	OSHA Z-1	
		TWA	5 mg/m3	1989-01-19	OSHA P0	
		PEL	5 mg/m3	2014-11-26	CAL PEL	
Methyl ethyl ketone peroxide; Reaction mass of butane-2,2- diyl dihydroperoxide and di-sec-butylhexaoxidane	1338-23-4	C	0.2 ppm	2013-03-01	ACGIH	
	Further information		eye irr: Eye irritation liver dam: Liver damage kidney dam: Kidney damage skin irr: Skin irritation			
		C	0.2 ppm 1.5 mg/m3	2013-10-08	NIOSH REL	
		C	0.7 ppm 5 mg/m3	1989-01-19	OSHA P0	
		C	0.2 ppm 1.5 mg/m3	2014-11-26	CAL PEL	
Methyl ethyl ketone	78-93-3	TWA	200 ppm	2013-03-01	ACGIH	
	Further information		CNS impair: Central Nervous System impairment URT irr: Upper Respiratory Tract irritation PNS impair: Peripheral Nervous System impairment BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)			
		STEL	300 ppm	2013-03-01	ACGIH	
	Further information		CNS impair: Central Nervous System impairment URT irr: Upper Respiratory Tract irritation PNS impair: Peripheral Nervous System impairment BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)			
		TWA	200 ppm 590 mg/m3	2013-10-08	NIOSH REL	
		ST	300 ppm 885 mg/m3	2013-10-08	NIOSH REL	
		TWA	200 ppm 590 mg/m3	1997-08-04	OSHA Z-1	

	Further information		(b): The value in mg/m ³ is approximate.			
		TWA	200 ppm 590 mg/m ³	1989-01-19	OSHA P0	
		STEL	300 ppm 885 mg/m ³	1989-01-19	OSHA P0	
		PEL	200 ppm 590 mg/m ³	2014-11-26	CAL PEL	
		STEL	300 ppm 885 mg/m ³	2014-11-26	CAL PEL	
Acetic acid	64-19-7, 64-19-7	TWA	10 ppm	2013-03-01	ACGIH	
	Further information		pulm func: Pulmonary function URT irr: Upper Respiratory Tract irritation eye irr: Eye irritation			
		STEL	15 ppm	2013-03-01	ACGIH	
	Further information		pulm func: Pulmonary function URT irr: Upper Respiratory Tract irritation eye irr: Eye irritation			
		TWA	10 ppm 25 mg/m ³	2013-10-08	NIOSH REL	
	Further information		Can be found in concentrations of 5-8% in vinegar			
		ST	15 ppm 37 mg/m ³	2013-10-08	NIOSH REL	
	Further information		Can be found in concentrations of 5-8% in vinegar			
		TWA	10 ppm 25 mg/m ³	1997-08-04	OSHA Z-1	
	Further information		(b): The value in mg/m ³ is approximate.			
		TWA	10 ppm 25 mg/m ³	1989-01-19	OSHA P0	
		PEL	10 ppm 25 mg/m ³	2014-11-26	CAL PEL	
		STEL	15 ppm 37 mg/m ³	2014-11-26	CAL PEL	
		C	40 ppm	2014-11-26	CAL PEL	
Propionic acid	79-09-4, 79-09-4	TWA	10 ppm	2013-03-01	ACGIH	

	Further information		URT irr: Upper Respiratory Tract irritation eye irr: Eye irritation skin irr: Skin irritation			
		TWA	10 ppm 30 mg/m ³	2013-10-08	NIOSH REL	
		ST	15 ppm 45 mg/m ³	2013-10-08	NIOSH REL	
		TWA	10 ppm	1989-01-19	OSHA P0	
			30 mg/m ³			
		PEL	10 ppm 30 mg/m ³	2014-11-26	CAL PEL	
Methyl ethyl ketone	78-93-3, 78-93-3	TWA	200 ppm	2013-03-01	ACGIH	
	Further information		CNS impair: Central Nervous System impairment URT irr: Upper Respiratory Tract irritation PNS impair: Peripheral Nervous System impairment BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)			
		STEL	300 ppm	2013-03-01	ACGIH	
	Further information		CNS impair: Central Nervous System impairment URT irr: Upper Respiratory Tract irritation PNS impair: Peripheral Nervous System impairment BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)			
		TWA	200 ppm 590 mg/m ³	2013-10-08	NIOSH REL	
		ST	300 ppm 885 mg/m ³	2013-10-08	NIOSH REL	
		TWA	200 ppm 590 mg/m ³	1997-08-04	OSHA Z-1	
	Further information		(b): The value in mg/m ³ is approximate.			
		TWA	200 ppm 590 mg/m ³	1989-01-19	OSHA P0	
		STEL	300 ppm 885 mg/m ³	1989-01-19	OSHA P0	
		PEL	200 ppm 590 mg/m ³	2014-11-26	CAL PEL	
		STEL	300 ppm 885 mg/m ³	2014-11-26	CAL PEL	

Biological occupational

Substance name	CAS-No.	Control parameters	Sampling time	Update
Methyl ethyl ketone	78-93-3	butan-2-one: 70 micromol per litre (Urine)	After shift	2011-12-18

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane	Consumers	Skin contact	Long-term systemic effects	0.54 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.41 mg/m ³
	Consumers	Ingestion	Long-term systemic effects	0.27 mg/kg
	Workers	Skin contact	Long-term systemic effects	1.08 mg/kg
	Workers	Inhalation	Long-term systemic effects	1.9 mg/m ³
Methyl ethyl ketone	Workers	Inhalation	Long-term systemic effects	600 mg/m ³
	Workers	Skin contact	Long-term systemic effects	1161 mg/kg
	Consumers	Inhalation	Long-term systemic effects	106 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	412 mg/kg
	Consumers	Ingestion	Long-term systemic effects	31 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
Methyl ethyl ketone peroxide; Reaction mass of butane- 2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane	Fresh w ater	0.0056 mg/l
	Intermittent w ater	0.056 mg/l
	Marine w ater	0.00056 mg/l
	Fresh w ater sediment	0.019 mg/kg dry w eight
	Marine sediment	0.0019 mg/kg dry w eight
	Sew age treatment plant	1.2 mg/l
	Soil	0.00231 mg/kg dry w eight
	Methyl ethyl ketone	Fresh w ater
Marine w ater		55.8 mg/l
Intermittent w ater		55.8 mg/l
Sew age treatment plant		709 mg/l
Fresh w ater sediment		284.74 mg/kg dry w eight
Marine sediment		284.74 mg/kg dry w eight
Soil		22.5 mg/kg dry w eight
Oral		1000 kg food

8.2 Exposure controls

Engineering controls

Explosion proof ventilation recommended. Effective exhaust ventilation system
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection	In the case of vapour or aerosol formation use a respirator with an approved filter. Filter A
Hand protection	butyl-rubber Neoprene
Eye protection	Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	Protective suit
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

Environmental exposure controls

General advice	Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.
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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical

Properties Appearance

Form	liquid
Colour	clear colourless
Odour	Faint.
Odour Threshold	No data available

Safety data

pH	Weakly acidic
Melting point	No data available
Boiling point/boiling range	Decomposes below the boiling point.
Flash point	Above the SADT value
No flash point was obtained,	but the product may release flammable vapour.
Evaporation rate	No data available
Flammability (solid, gas)	Not applicable
Flammability (liquids)	Decomposition products may be flammable.
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	1 hPa at 84 °C
Relative vapour density	No data available
Relative density	1.180 at 20 °C
Bulk density	Not applicable
Water solubility	at 20 ° partly miscible
Solubility in other solvents	20 °C Miscible with: Phthalates
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	Test method not applicable
Decomposition temperature	SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self-accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and,

under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.

Self-Accelerating
decomposition temperature (SADT) 60 °C
Viscosity, dynamic 24 mPa.s at 20 °C
Viscosity, kinematic: 20.34 mm²/s at 20 °C
Explosive properties Not explosive
Oxidizing properties Not classified as oxidising.

9.2 Other information

Active Oxygen Content 8.8 - 9.0 %
Organic peroxides 30 - 37 %

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : Confinement must be avoided.
Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Contact with the following incompatible materials will result in hazardous decomposition:

Acids and bases Iron
Copper Reducing agents Heavy metals Rust
Do not mix with peroxide accelerators, unless under controlled processing.
Use only stainless steel 316, PP, polyethylene or glass-lined equipment.
For queries regarding the suitability of other materials please contact the supplier.

10.6 Hazardous decomposition products

Hazardous decomposition products: Carbon oxides Formic acid Acetic acid Propionic acid Methyl ethyl ketone
Thermal decomposition SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self-accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-Accelerating decomposition temperature (SADT) 60 °C

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product information:

Acute toxicity	:	Harmful if swallowed or if inhaled
Skin corrosion/irritation	:	Causes severe burns.
Serious eye damage/eye irritation	:	Causes serious eye damage.
Respiratory or skin sensitisation	:	Respiratory sensitisation: Not classified based on available information. Skin sensitisation: Not classified based on available information.
Germ cell mutagenicity	:	Not classified based on available information.
Carcinogenicity	:	Not classified based on available information.
Reproductive toxicity	:	Not classified based on available information.
STOT - single exposure	:	Not classified based on available information.
STOT - repeated exposure	:	Not classified based on available information.
Aspiration hazard	:	Not classified based on available information.
Further information	:	No further data available.

Test result

Acute oral toxicity	LD50 Oral: 1,070 mg/kg Species: rats Method: OECD Test Guideline 401
Acute inhalation toxicity	LC50 (Rat): 1.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	LD50: 4,000 mg/kg Species: Rabbit Method: OECD Test Guideline 402
Skin corrosion/irritation	Species: Rabbit Result: Sub-category 1B Classification: Category 1B Method: Tested according to Annex V of Directive 67/548/EEC.
Serious eye damage/eye irritation	Species: Rabbit Result: Risk of serious damage to eyes. Classification: Risk of serious damage to eyes. Method: Tested according to Annex V of Directive 67/548/EEC.

Toxicology data for the components:

Methyl ethyl ketone peroxide;Reaction mass of butane -2,2-diyl dihydroperoxide and di- sec-butylhexaoxidane

Acute toxicity:

Acute oral toxicity	LD50: 1,017 mg/kg Species: Rat
Acute inhalation toxicity	LC50 (Rat): 1.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	LD50: 4,000 mg/kg Species: Rat
Skin corrosion/irritation	Result: Causes burns.
Serious eye damage/eye irritation	Result: Risk of serious damage to eyes. Germ cell mutagenicity
Genotoxicity in vitro	Ames test Result: negative
Genotoxicity in vivo	Not classified due to data which are conclusive although insufficient for classification.
Carcinogenicity	No data available
Reproductive toxicity/Fertility	Species: Rat, male and female Application Route: Oral Dose: 0, 25, 50, 75 milligram per kilogram General Toxicity - Parent: No observed adverse effect level: 50 mg/kg bw/day General Toxicity F1: No observed adverse effect level F1: 50 mg/kg bw/day Fertility: No observed adverse effect level Parent: 75 mg/kg bw/day Method: OECD Test Guideline 421 GLP: yes
STOT - repeated exposure	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration hazard	No aspiration toxicity classification

Methyl ethyl ketone Acute toxicity:

Acute dermal toxicity	LD50: 6,480 mg/kg Species: Rabbit
Skin corrosion/irritation	Result: Repeated exposure may cause skin dryness or cracking. Moderately irritating.
Serious eye damage/eye irritation	Result: Irritating to eyes.
STOT - single exposure	Exposure routes: Inhalation The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
Aspiration hazard	No aspiration toxicity classification

12. ECOLOGICAL INFORMATION

Product information:

Ecotoxicology Assessment

Additional ecological information	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life.
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12.1 Toxicity

Test result

Toxicity to fish	LC50: 44.2 mg/l Exposure time: 96 h Species: Poecilia reticulata (guppy) Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	39 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)

Toxicity to algae Test Type: Immobilization
 ErC50: 5.6 mg/l
 Exposure time: 72 h
 Species: Pseudokirchneriella subcapitata (algae)

Toxicity to bacteria Test Type: Growth inhibition
 EC10: 12 mg/l
 Exposure time: 0.5 h
 Species: activated sludge
 Test Type: Respiration inhibition
 Method: Domestic OECD Guideline 209

Components

Test result

Methyl ethyl ketone peroxide;Reaction mass of butane -2,2-diyl dihydroperoxide and di- sec-butylhexaoxidane

Toxicity to fish	LC50: 44.2 mg/l Exposure time: 96 h Species: Poecilia reticulata (guppy) Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	39 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Test Type: Immobilization
Toxicity to algae	ErC50: 5.6 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (algae) Test Type: Growth inhibition
Toxicity to bacteria	EC10: 12 mg/l Exposure time: 0.5 h Species: activated sludge Test Type: Respiration inhibition Method: Domestic OECD Guideline 209

12.2 Persistence and degradability

Product information: No information available.

Components:

Methyl ethyl ketone peroxide;Reaction mass of butane -2,2-diyl dihydroperoxide and di- sec-butylhexaoxidane

Biodegradability : Result: Readily biodegradable Method: Closed Bottle test

Methyl ethyl ketone

Biodegradability : Result: Readily biodegradable

12.3 Bioaccumulative potential

Product information : No information available.

Components:

Methyl ethyl ketone peroxide;Reaction mass of butane-2,2-diyl dihydroperoxide and di- sec-butylhexaoxidane

Bioaccumulation : Bioconcentration factor (BCF): 10.3 Not expected considering the low log Pow value.

12.4 Mobility in soil

Product information: No information available.
Components : No information available.

12.5 Results of PBT and vPvB assessment

Product information:

PBT and vPvB assessment This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components No information available

12.6 Other adverse effects

Product information: No information available.

Components : No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Hazardous waste
Dispose of contents/container in accordance with local regulation.

Contaminated packaging Empty remaining contents. Dispose of as unused product.
Do not burn, or use a cutting torch on, the empty drum.
Due to the high risk of contamination recycling/recovery is not recommended.
Follow all warnings even after the container is emptied.

14. TRANSPORT INFORMATION

14.1 UN number

ADR	UN 3105
RID	UN 3105
IMDG-Code	UN 3105
IATA-DGR	UN 3105

14.2 Proper Shipping Name

ADR	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl ethyl ketone peroxide)
RID	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl ethyl ketone peroxide)
IMDG-Code	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl ethyl ketone peroxide)

15. REGULATORY INFORMATION

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

Major Accident Hazard Legislation Seveso Directive 2012/18/EU
SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC
PEROXIDES
P6b
Quantity 1: 50 t
Quantity 2: 200 t

Water contaminating class (Germany) WGK 1 slightly water endangering

Notification status

TSCA	YES. All chemical substances in this product are either listed on the Inventory or in compliance with a TSCA Inventory exemption.
DSL	YES. All components of this product are on the Canadian DSL
AICS	YES. On the inventory, or in compliance with the inventory
NZIoC	YES. On the inventory, or in compliance with the inventory
ENCS	YES. On the inventory, or in compliance with the inventory
ISHL	YES. On the inventory, or in compliance with the inventory
KECI	YES. On the inventory, or in compliance with the inventory
PICCS	YES. On the inventory, or in compliance with the inventory
IECSC	YES. On the inventory, or in compliance with the inventory

For explanation of abbreviation see section 16.

Further information

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

This product is to be considered as a substance according to EU-legislation.

15.2 Chemical safety assessment

Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec- butylhexaoxidane

A Chemical Safety Assessment has been carried out for this substance.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H240	Heating may cause an explosion.
H242	Heating may cause a fire.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness

Classification procedure:

Organic peroxides, D, H242, On basis of test data.

Acute toxicity, 4, H302, On basis of test data.

Acute toxicity, 4, H332, On basis of test data.

Skin corrosion, 1B, H314, Calculation method
Serious eye damage, 1, H318, On basis of test data.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECl - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Revision Date: 10.05.2016

Print Date: 25.04.2017

HEALTH & SAFETY INFORMATION SHEET
APPENDIX 99
Adhesive

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

PRODUCT NAME: Adhesive
MANUFACTURER/SUPPLIER: Envirograf
ADDRESS: Envirograf House, Barrestone, Dover, Kent, CT15 7JG
TELEPHONE/FAX/EMAIL: 01304 842555 01304 842666 sales@envirograf.com
EMERGENCY PHONE NUMBER: 01304 842555 (8.30am – 5.30pm)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Product definition: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226
Acute Tox. 4, H332
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317 Carc. 2, H351
Repr. 2, H361d (Unbornchild)
STOT SE 3, H335
STOT RE 1, H372
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Pictogram



Signal word Danger
Hazard statements H226 - Flammable liquid and vapour.
H332 - Harmful if inhaled.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H361d - Suspected of damaging the unborn child.
H351 - Suspected of causing cancer.
H335 - May cause respiratory irritation.
H372 - Causes damage to organs through prolonged or repeated exposure.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements Prevention P201 - Obtain special instructions before use.
P280 - Wear protective gloves. Wear protective clothing. Wear eye/face protection.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P273 - Avoid release to the environment.

P260 - Do not breathe vapour.

Response P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Storage P405 - Store locked up.

Disposal P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients styrene
antimony trioxide
cobalt bis(2-ethylhexanoate)
phthalic anhydride

Supplemental label elements Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not applicable.

2.3 Other hazards

Other hazards which do not result in classification None

3. COMPOSITION / INFORMATION ON INGREDIENTS

1 Product/ingredient	2 Identifiers	3	4 <u>Classification Regulation</u>	5 (EC) No. 1272/2008 [CLP]	6 Type
styrene	REACH #:	≥2	Flam. Liq. 3, H226		[1] [2]
12	01-2119457861-32	5 -	Acute Tox. 4, H332		16
17	EC: 202-851-5	0	Skin Irrit. 2, H315		21
22	CAS: 100-42-5		Eye Irrit. 2, H319		26
27	Index: 601-026-00-0		Repr. 2, H361d (Unborn child)		31
32	33		STOT SE 3, H335		36
37	38		STOT RE 1, H372 (hearing organs)		41
42	43		Asp. Tox. 1, H304		46
47	48		Aquatic Chronic 3, H412		51
antimony trioxide	REACH #:	≤1	Carc. 2, H351		[1] [2]
57	01-2119475613-35	0	60		61
62	EC: 215-175-0		65		66
67	CAS: 1309-64-4		70		71
72	Index: 051-005-00-X		75		76
cobalt bis	REACH #:	≤0	Eye Irrit. 2, H319		[1] [2]
(2-ethylhexanoate)	01-2119524678-29	.3	Skin Sens. 1A, H317		86
87	EC: 205-250-6		Repr. 2, H361f (Fertility)		91
92	CAS: 136-52-7		Aquatic Acute 1, H400 (M=1)		96
97	98		Aquatic Chronic 3, H412		101
phthalic anhydride	REACH #:	≤0	Acute Tox. 4, H302		[1] [2]
		.3			

107	01-2119457017-41		Skin Irrit. 2, H315	111
112	EC: 201-607-5		Eye Dam. 1, H318	116
117	CAS: 85-44-9		Resp. Sens. 1, H334	121
122	Index: 607-009-00-4		Skin Sens. 1, H317	126
127	128		STOT SE 3, H335	131
1-methoxy-2-propanol	REACH #:	≤0.1	Flam. Liq. 3, H226	[1] [2]
137	01-2119457435-35		STOT SE 3, H336	141
142	EC: 203-539-1		145	146
147	CAS: 107-98-2		150	151
152	Index: 603-064-00-3		155	156
(2-methoxymethylethoxy) propanol	REACH #:	≤0.1	Not classified.	[2]
164	EC: 252-104-2		167	168
169	CAS: 34590-94-8		172	173
lead compounds	EC: 215-267-0	≤0.1	Acute Tox. 4, H302	[1] [2]
179	CAS: 1317-36-8		Acute Tox. 4, H332	183
184	Index: 082-001-00-6		Repr. 1A, H360FD (Fertility and Unborn child)	188
189	190		Lact., H362	193
194	195		STOT RE 1, H372	198
199	200		Aquatic Acute 1, H400 (M=1)	203
204	205		Aquatic Chronic 1, H410 (M=1)	208
209	210		See Section 16 for the full text of the H statements declared above	213
214	215		217	218

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately.

Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact Wash with plenty of soap and water. Remove contaminated clothing and shoes.

Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention.

Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

Potential acute health effects:

Eye contact	Causes serious eye irritation.
Inhalation	Harmful if inhaled. May cause respiratory irritation.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms:

Eye contact	Adverse symptoms may include the following: pain or irritation, watering, redness
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing reduced foetal weight increase in foetal deaths skeletal malformations
Skin contact	Adverse symptoms may include the following: irritation redness reduced foetal weight increase in foetal deaths skeletal malformations
Ingestion	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments No specific treatment.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, halogenated compounds, carbonyl halides, metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Environmental precautions	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
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6.3 Personal precautions, protective equipment and emergency procedures

Small spill	<p>Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble.</p> <p>Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</p>
Large spill	<p>Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.</p>

6.4 Reference to other sections

See Section 1 for emergency contact information.
 See Section 8 for information on appropriate personal protective equipment.
 See Section 13 for additional waste treatment information

7. HANDLING AND STORAGE

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures	<p>Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.</p>
Advice on general occupational hygiene	<p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Handling and Storage

Name	Notification and MAPP threshold	Safety report threshold
Arsenic trioxide, arsenious (III) acid and/or salts	-	0.1

Danger Criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b	5000	50000

7.3 Specific end use(s)

Recommendations	Not available.
Industrial sector specific solutions	Not available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control Parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
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styrene 222 223 224	EH40/2005 WELs (United Kingdom (UK), 12/2011). 2 STEL: 250 ppm 15 minutes. 3 TWA: 100 ppm 8 hours. 4 TWA: 430 mg/m ³ 8 hours. 5 STEL: 1080 mg/m ³ 15 minutes.
antimony trioxide 226	EH40/2005 WELs (United Kingdom (UK), 12/2011). 7 TWA: 0.5 mg/m ³ , (as Sb) 8 hours.
cobalt bis(2-ethylhexanoate) 228	EH40/2005 WELs (United Kingdom (UK), 12/2011). Inhalation sensitiser. 9 TWA: 0.1 mg/m ³ , (as Co) 8 hours.
phthalic anhydride 230 231	EH40/2005 WELs (United Kingdom (UK), 12/2011). Inhalation sensitiser. 1 STEL: 12 mg/m ³ 15 minutes. 2 TWA: 4 mg/m ³ 8 hours.
1-methoxy-2-propanol 233 234 235 236	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. 4 STEL: 560 mg/m ³ 15 minutes. 5 STEL: 150 ppm 15 minutes. 6 TWA: 375 mg/m ³ 8 hours. 7 TWA: 100 ppm 8 hours.
(2-methoxymethylethoxy)propanol 238 239	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. 9 TWA: 308 mg/m ³ 8 hours. 10 TWA: 50 ppm 8 hours.
lead compounds	EU OEL (Europe, 12/2009). Notes: list of binding occupational exposure limit values 2 TWA: 0.15 mg/m ³ 8 hours.

Recommended monitoring procedures If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

263 Product/ingredient name	264 Type	265 Exposure	266 Value	267 Population	268 Effects
styrene	70 DNEL	Short term Inhalation	289 mg/m ³ 286	Workers	Systemic
310	11 DNEL	Short term Inhalation	306 mg/m ³ 288	Workers	Local
314	15 DNEL	Long term Dermal	406 mg/kg	Workers	Systemic
318	19 DNEL	Long term Inhalation	85 mg/m ³ 291	Workers	Systemic
322	23 DNEL	Short term Inhalation	174.25 mg/ m ³	Consumers	Systemic
326	27 DNEL	Short term Inhalation	182.75 mg/ m ³	Consumers	Local
330	31 DNEL	Long term Dermal	343 mg/kg	Consumers	Systemic
334	35 DNEL	Long term Inhalation	10.2 mg/m ³ 296	Consumers	Systemic
338	39 DNEL	Long term Oral	2.1 mg/kg	Consumers	Systemic

antimony trioxide	43 DNEL	278 Long term Dermal	bw/day 281 mg/kg	-	Systemic
346	47 DNEL	280 Long term	bw/day 0.5 mg/m ³	-	Local
phthalic anhydride	51 DNEL	Inhalation Long term Oral	300 5 mg/kg	Consumers	Systemic
354	55 DNEL	282 Long term Oral	bw/day 10 mg/kg	Workers	Systemic
358	59 DNEL	Long term Dermal	bw/day 5 mg/kg	Consumers	Systemic
362	63 DNEL	Long term Dermal	bw/day 10 mg/kg	Workers	Systemic
366	67 DNEL	Long term Inhalation	bw/day 8.6 mg/m ³	Consumers	Systemic
370	71 DNEL	Long term Inhalation	306 32.2 mg/m ³	Workers	Systemic

PNEC's

374 Product/ingredient name	375 Compartment Detail	376 Value	377 Method Detail
styrene	Fresh water	0.028 mg/l	-
382	Marine water	0.0028 mg/l	-
386	Fresh water sediment	0.614 mg/kg dwt	-
390	Marine water sediment	0.0614 mg/kg dwt	-
394	Soil	0.2 mg/kg dwt	-
398	Sewage Treatment	5 mg/l	-
402	Plant	404	405
antimony trioxide	Fresh water	0.113 mg/l	-
410	Marine water	0.0113 mg/l	-
414	Fresh water sediment	7.8 mg/kg wwt	-
418	Marine water sediment	1.56 mg/kg wwt	-
422	Soil	37 mg/kg dwt	-
426	Soil	32.6 mg/kg wwt	-
430	Sewage Treatment	2.55 mg/l	-
434	Plant	436	437
phthalic anhydride	Soil	0.153 mg/kg	-
442	Sewage Treatment	10 mg/l	-
446	Plant	448	449
450	Fresh water sediment	0.826 mg/kg	-
454	Marine water sediment	0.38 mg/kg dwt	Equilibrium Partitioning
	Marine water	0.1 mg/l	-
	Fresh water	1 mg/l	-
	Marine water sediment	0.0826 mg/kg	-

8.1 Control Parameters

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust

concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Colour	Not available.
Odour	Solvent

Odour threshold:	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Closed cup: 23 to 37.8°C
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Burning time Burning rate	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	1.1 to 1.2
Solubility(ies)	Not available.
Solubility in water	Not available.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic (40°C): >0.4 cm ² /s
Explosive properties	Not available.
Oxidising properties	Not available.

9.2 Other information

Heat of combustion	Not available.
Enclosed space ignition - Time equivalent	Not applicable.

10. STABILITY AND REACTIVITY

10.1 Reactivity No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability The product is stable.

10.3 Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials Reactive or incompatible with the following materials: oxidizing materials

10.6 Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
styrene	LC50 Inhalation Gas.	Rat	2770 ppm	4 hours
	LC50 Inhalation Vapour	Rat	11800 mg/m ³	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	2650 mg/kg	-
antimony trioxide	LC50 Inhalation Dusts and mists	Rat	>5200 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>8300 mg/kg	-

cobalt bis(2-ethylhexanoate)	LD50 Oral	Rat	>20000 mg/kg
	LD50 Dermal	Rabbit	>5 g/kg
phthalic anhydride	LD50 Oral	Rat	>2000 mg/kg
	LD50 Dermal	Rabbit	>3160 mg/kg
1-methoxy-2-propanol	LD50 Oral	Rat	1530 mg/kg
	LD50 Dermal	Rabbit	13 g/kg
	LD50 Oral	Rat	6600 mg/kg

Conclusion/Summary Not available.

Acute toxicity estimates

Route	ATE value
Inhalation (gases) Inhalation (vapours)	10774.5 ppm 45.9 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
styrene	Eyes - Mild irritant	Human		50 parts per million	
	Eyes - Moderate irritant	Rabbit		24 hours 100 milligrams	
	Eyes - Severe irritant	Rabbit		100 milligrams	
	Skin - Mild irritant	Rabbit		500 milligrams	
1-methoxy-2-propanol	Skin - Moderate irritant	Rabbit		100 Percent	
	Skin - Mild irritant	Rabbit		500 milligrams	
lead compounds	Skin - Mild irritant	Rabbit		24 hours 100 milligrams	

Conclusion/Summary: Not available.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
phthalic anhydride	skin	Guinea pig	Sensitising

Conclusion/Summary : Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
phthalic anhydride	OECD 479 Genetic Toxicology: In vitro Sister Chromatid Exchange Assay in Mammalian Cells	Subject: Mammalian-Animal	Negative

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

467 Product/ingredient name	468 Category	469 Route of exposure	470 Target organs
styrene 472	Category 3	Not applicable.	Respiratory tract irritation
phthalic anhydride	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

482 Product/ingredient name	483 Category	484 Route of exposure	485 Target organs
styrene	Category 1	Not determined	hearing organs

Aspiration hazard

490 Product/ingredient name	491 Result
styrene	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure	Not available.
Potential acute health effects	Causes serious eye irritation
Eye contact	Harmful if inhaled. May cause respiratory irritation.
Inhalation:	Causes skin irritation. May cause an allergic skin reaction.
Skin contact	No known significant effects or critical hazards.
Causes skin irritation. May cause an allergic skin reaction.	
Ingestion	

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact Adverse symptoms may include the following pain or irritation, watering redness
Inhalation Adverse symptoms may include the following: respiratory tract, irritation, coughing, reduced foetal weight increase in foetal deaths skeletal malformations
Skin contact Adverse symptoms may include the following: irritation, redness, reduced foetal weight increase in foetal deaths skeletal malformations
Ingestion Adverse symptoms may include the following: reduced foetal weight, increase in foetal deaths skeletal malformations

Delayed and immediate effects as well as chronic effects from short and long-term exposure Short term exposure

Potential immediate effects	Not available.
Potential delayed effects	Not available.

Long term exposure

Potential immediate effects Not available.
 Potential delayed effects Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
styrene 500	Chronic NOAEL Dermal	Rat	615 mg/kg	-
	Chronic NOAEL Inhalation	Rat	20 ppm	8 hours
501	Gas.	507	511	515
phthalic anhydride	Chronic NOAEL Oral	Rat	500 mg/kg	-

Conclusion/Summary Not available.
 General Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
 Carcinogenicity Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
 Mutagenicity No known significant effects or critical hazards.
 Teratogenicity Suspected of damaging the unborn child.
 Developmental effects No known significant effects or critical hazards.
 Fertility effects No known significant effects or critical hazards.
 Other information Not available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
styrene	Acute EC50 1400 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 33 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 4700 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 52 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 4020 µg/l Fresh water	Fish - Pimephales promelas	96 hours
antimony trioxide	Chronic NOEC 1.01 mg/l	Daphnia	21 days
	Acute EC50 >36.6 mg/l	Algae	72 hours
	Acute EC50 >25.5 mg/l	Aquatic plants	4 days
	Acute EC50 560 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute EC50 423450 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 6.9 mg/l Marine water	Fish - Pagrus major	96 hours
	Chronic NOEC 2.11 to 4 mg/l	Algae	72 hours
	Chronic NOEC 1.74 to 3.13 mg/l	Daphnia	21 days
	Chronic NOEC 1.13 to 2.31 mg/l	Fish	28 days
	NOEC 16 mg/l	Daphnia	21 days
phthalic anhydride	Acute EC50 >640 mg/l Fresh water	Daphnia	48 hours
	Acute EC50 >1000 mg/l	Micro-organism	3 hours
	Acute NOEC 32 mg/l	Algae	72 hours
	Acute NOEC >100mg/l	Algae	72 hours
	Acute LC50 132 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
lead compounds	Acute LC50 298 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours

Conclusion/Summary Notavailable.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
phthalic anhydride	-	85.2 % - 28 days	-	-

Conclusion/Summary

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
styrene	-	-	Readily
antimony trioxide	-	-	Readily
cobalt bis(2-ethylhexanoate)	-	-	Not readily
phthalic anhydride	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
styrene	0.35	13.49	low
cobalt bis(2-ethylhexanoate) phthalic anhydride	-	15600	high
1-methoxy-2-propanol	1.6	3.4	low
(2-methoxymethylethoxy) propanol	<1	-	low
	0.004	-	low

12.4 Mobility in soil

Soil/water partition coefficient (KOC) Not available.

Mobility Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB Not applicable.

12.6 Other adverse effects No known significant effects or critical hazards**13. DISPOSAL CONSIDERATIONS**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods Product




Methods of disposal The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste Packaging The classification of the product may meet the criteria for a hazardous waste.

Methods of disposal The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

566	567 ADR/RID	568 IMDG	569 IATA
14.1 UN number	UN1866	UN1866	UN1866
14.2 UN proper shipping name	RESIN SOLUTION	RESIN SOLUTION	Resin solution
14.3 Transport hazard class(es)	3  580 581	3  583 584	3  586 587
14.4 Packing group	III	III	III
14.5 Environmental hazards	No.	No.	No.
Additional information	Hazard identification number 30 Limited quantity 5 L Special provisions 640E Tunnel code (D/E)	Emergency schedules F-E, _S-E_ Special provisions 223, 955	The environmentally hazardous substance mark may appear if required by other transportation regulations. Quantity limitation Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344. Special provisions A3

14.6 Special precautions for user

Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not available.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation Annex XIV
None of the components are listed.

Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Not applicable.

Other EU regulations

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
styrene	-	-	Repr. 2, H361d (Unborn child)	-
antimony trioxide	Carc. 2, H351	-	-	-
cobalt bis (2-ethylhexanoate)	-	-	-	Repr. 2, H361f (Fertility)
lead compounds	-	-	Repr. 1A, H360D (Unborn child) Lact., H362	Repr. 1A, H360F (Fertility)

Seveso Directive

This product is controlled under the Seveso Directive.

Named substances

Arsenic trioxide, arsenious (III) acid and/or salts

Danger criteria

Category: P5c Flammable liquids 2 and 3 not falling under P5a or P5b

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
cobalt bis(2-ethylhexanoate)	UK Occupational Exposure Limits EH40 - WEL	cobalt compounds	Carc.	-

International regulations

Listed on inventory Not determined

16. OTHER INFORMATION

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

vPvB = Very Persistent and Very Bioaccumulative

619 Classification	620 Justification
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Carc. 2, H351	Calculation method
Repr. 2, H361d (Unborn child)	Calculation method
STOT SE 3, H335	Calculation method
STOT RE 1, H372	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H360FD	May damage fertility. May damage the unborn child.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H362	May cause harm to breast-fed children.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
Aquatic Acute 1, H400	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1, H410	LONG-TERM (CHRONIC) AQUATIC HAZARD – Category 1
Aquatic Chronic 3, H412	LONG-TERM (CHRONIC) AQUATIC HAZARD – Category 3
Asp. Tox. 1, H304	ASPIRATION HAZARD - Category 1
Carc. 2, H351	CARCINOGENICITY - Category 2
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 3, H226	FLAMMABLE LIQUIDS - Category 3
Lact., H362	REPRODUCTIVE TOXICITY - Effects on or via lactation
Repr. 1A, H360FD	REPRODUCTIVE TOXICITY (Fertility and Unborn child) - Category 1A
Repr. 2, H361d	REPRODUCTIVE TOXICITY (Unborn child) - Category 2
Repr. 2, H361f	REPRODUCTIVE TOXICITY (Fertility) - Category 2
Resp. Sens. 1, H334	RESPIRATORY SENSITISATION - Category 1
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317	SKIN SENSITISATION - Category 1
Skin Sens. 1A, H317	SKIN SENSITISATION - Category 1A
STOT RE 1, H372	SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE - Category 1
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
STOT SE 3, H336	SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE (Narcotic effects) - Category 3

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