

05.08.2020

**Kit components**

Product code	Description
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<b>425</b>	<b>Twecolor set</b>
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Components:

423	Double Coat base component
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424	TWEECOLUX hardener
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**Safety data sheet  
according to 1907/2006/EC, Article 31**

Printing date 05.08.2020

Version number 76

Revision: 05.08.2020

**\* SECTION 1: Identification of the substance/mixture and of the company/undertaking**


**1.1 Product identifier**

- Trade name: **Double Coat base component**
- Article number: 423
- UFI: 49M4-A0DS-G00M-Q6G1
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- Sector of Use
  - SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
  - SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
  - SU19 Building and construction work
- Product category
  - PC9a Coatings and paints, thinners, paint removers
- Process category
  - PROC19 Manual activities involving hand contact
  - PROC7 Industrial spraying
  - PROC10 Roller application or brushing
  - PROC11 Non industrial spraying
- Environmental release category
  - ERC5 Use at industrial site leading to inclusion into/onto article
  - ERC8c Widespread use leading to inclusion into/onto article (indoor)
  - ERC8f Widespread use leading to inclusion into/onto article (outdoor)
- Article category
  - AC13 Plastic articles
  - AC7 Metal articles
  - AC11 Wood articles
- Application of the substance / the mixture
  - See our technical datasheet for application details of this product.
  - Polyurethane lacquer
- **1.3 Details of the supplier of the safety data sheet**
- Manufacturer/Supplier: De IJssel Coatings BV, Centrumbaan 960, NL 2841 MH Moordrecht  
Tel: +31 182 372177, E-mail: info@de-ijssel-coatings.nl
- Further information obtainable from: Research and Development.
- **1.4 Emergency telephone number:** De IJssel Coatings BV, Tel. +31 182 372177, E-mail: safety@de-ijssel-coatings.nl  
Office hours: working days from 08:00 to 17:00 hrs.

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

- Classification according to Regulation (EC) No 1272/2008



 GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

 GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

**2.2 Label elements**

- Labelling according to Regulation (EC) No 1272/2008
  - The product is classified and labelled according to the CLP regulation.
- Hazard pictograms
  -  
  - GHS02 GHS07
- Signal word
  - Warning
- Hazard-determining components of labelling:
  - 2-methoxy-1-methylethyl acetate
- Hazard statements
  - H226 Flammable liquid and vapour.
  - H336 May cause drowsiness or dizziness.
- Precautionary statements
  - P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P261 Avoid breathing mist/vapours/spray.
  - P280 Wear protective gloves/protective clothing/eye protection/face protection.
  - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  - P405 Store locked up.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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- Labelling of packages where the contents do not exceed 125 ml
- Hazard pictograms    
GHS02 GHS07
- Signal word Warning
- Hazard-determining components of labelling: 2-methoxy-1-methylethyl acetate
- Hazard statements Void
- **2.3 Other hazards**
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

**SECTION 3: Composition/information on ingredients****3.2 Chemical characterisation: Mixtures**

- Description: Mixture of substances listed below with nonhazardous additions.

## · Dangerous components:

CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate	 Flam. Liq. 3, H226;  STOT SE 3, H336	10 – 25%
CAS: 54839-24-6 EINECS: 259-370-9 Index number: 603-177-00-8 Reg.nr.: 01-2119475116-39	2-ethoxy-1-methylethyl acetate	 Flam. Liq. 3, H226;  STOT SE 3, H336	10 – 25%

- Additional information: For the wording of the listed hazard phrases refer to section 16.

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

- General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately rinse with water.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: If symptoms persist consult doctor.

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

No further relevant information available.

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

No further relevant information available.

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

- Suitable extinguishing agents: CO2 or powder. Fight larger fires with alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet

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

No further relevant information available.

**5.3 Advice for firefighters**

- Protective equipment: No special measures required.

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

Wear protective equipment. Keep unprotected persons away.

**6.2 Environmental precautions:**

Do not allow to enter sewers/ surface or ground water.

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

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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**Trade name: Double Coat base component**

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- Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections** See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- Information about fire - and explosion protection: Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- Storage: No special requirements.
- Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep container tightly sealed.
- Recommended storage temperature: 5 - 30 °C
- **7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

- Additional information about design of technical facilities: No further data; see item 7.

**8.1 Control parameters**

· Ingredients with limit values that require monitoring at the workplace:		
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
IOELV	Short-term value: 550 mg/m <sup>3</sup> , 100 ppm Long-term value: 275 mg/m <sup>3</sup> , 50 ppm Skin	
· DNEL (Derived No Effect Level) for workers		
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Dermal	Long-term - systemic effects, worker	153.5 mg/kg bw/day (Worker)
Inhalative	Long-term - systemic effects, worker	275 mg/m <sup>3</sup> (Worker)
<b>54839-24-6 2-ethoxy-1-methylethyl acetate</b>		
Dermal	Long-term - systemic effects, worker	103 mg/kg bw/day (Worker)
Inhalative	Acute - systemic effects, worker	608 mg/m <sup>3</sup> (Worker)
	Long-term - systemic effects, worker	302 mg/m <sup>3</sup> (Worker)
· DNEL (Derived No Effect Level) for the general population		
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Oral	Long-term - systemic effects, general population	1.67 mg/kg bw/day (General population)
Dermal	Long-term - systemic effects, general population	54.8 mg/kg bw/day (General population)
Inhalative	Long-term - systemic effects, general population	33 mg/m <sup>3</sup> (General population)
<b>54839-24-6 2-ethoxy-1-methylethyl acetate</b>		
Oral	Long-term - systemic effects, general population	13.1 mg/kg bw/day (General population)
Dermal	Long-term - systemic effects, general population	62 mg/kg bw/day (General population)
Inhalative	Acute - systemic effects, general population	365 mg/m <sup>3</sup> (General population)
	Long-term - systemic effects, general population	181 mg/m <sup>3</sup> (General population)
· PNEC (Predicted No Effect Concentration) values		
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Aquatic compartment - freshwater		0.635 mg/l (Freshwater)
Aquatic compartment - marine water		0.0635 mg/l (Marine water)

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Aquatic compartment - water, intermittent releases	6.35 mg/l (Intermittent release water)
Aquatic compartment - sediment in freshwater	3.29 mg/kg sed dw (Sediment freshwater)
Aquatic compartment - sediment in marine water	0.329 mg/kg sed dw (Marine water)
Terrestrial compartment - soil	0.29 mg/kg dw (Soil)
Sewage treatment plant	100 mg/l (stp)
<b>54839-24-6 2-ethoxy-1-methylethyl acetate</b>	
Aquatic compartment - freshwater	1.3 mg/l
Aquatic compartment - marine water	0.13 mg/l
Aquatic compartment - sediment in freshwater	6.4 mg/kg sed dw
Aquatic compartment - sediment in marine water	1.34 mg/kg sed dw
Terrestrial compartment - soil	1.34 mg/kg dw
Sewage treatment plant	62.5 mg/l

- Additional information: The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- Personal protective equipment:
- General protective and hygienic measures: Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.
- Respiratory protection: In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- Protection of hands: Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- Material of gloves Nitrile rubber, NBR  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.  
Recommended thickness of the material:  $\geq 0.3$  mm
- Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.  
For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 16523-1:2015: Level 6).
- For the permanent contact gloves made of the following materials are suitable: Nitrile rubber, NBR
- As protection from splashes gloves made of the following materials are suitable: Nitrile rubber, NBR
- Not suitable are gloves made of the following materials: Leather gloves  
Strong material gloves
- Eye protection: Tightly sealed goggles

**SECTION 9: Physical and chemical properties**

<b>9.1 Information on basic physical and chemical properties</b>	
· General Information	
· Appearance:	
Form:	Fluid
Colour:	Different according to colouring
· Odour:	Solvent-like
· Odour threshold:	Not determined.
· pH-value at 20 °C:	7
· Change in condition	
Melting point/freezing point:	Undetermined.

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Initial boiling point and boiling range: 146 °C	
· Flash point:	44 °C (Pensky Martens, ASTM D93)
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	315 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.5 Vol %
Upper:	10.8 Vol %
· Vapour pressure at 20 °C:	3.4 hPa
· Density at 20 °C:	1.389 g/cm <sup>3</sup> (DIN 51757, ASTM D 1298)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic at 20 °C:	1,400 mPas (Brookfield, ASTM D1544)
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	35.1 %
VOC (2004/42/EC):	35.12 %
Solids content:	63.3 %
· <b>9.2 Other information</b>	No further relevant information available.

**SECTION 10: Stability and reactivity**

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- Acute toxicity Based on available data, the classification criteria are not met.
- LD/LC50 values relevant for classification:

Components	Type	Value	Species
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>			
Oral	LD50	8,532 mg/kg	(Rat)

- Primary irritant effect:
- Skin corrosion/irritation Based on available data, the classification criteria are not met.
- Serious eye damage/irritation Based on available data, the classification criteria are not met.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Based on available data, the classification criteria are not met.
- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure May cause drowsiness or dizziness.

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- STOT-repeated exposure                      Based on available data, the classification criteria are not met.
- Aspiration hazard                                Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

- **12.1 Toxicity**
- Aquatic toxicity:                                No further relevant information available.

Type of test	Effective concentration	Method	Assessment
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>			
Inhalative	LC50/4 h	35.7 mg/l	(Rat)

- **12.2 Persistence and degradability**                      No further relevant information available.
- **12.3 Bioaccumulative potential**                      No further relevant information available.
- **12.4 Mobility in soil**                                      No further relevant information available.
- Additional ecological information:
- General notes:                                      Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- PBT:    Not applicable.
- vPvB:    Not applicable.
- **12.6 Other adverse effects**                              No further relevant information available.

**SECTION 13: Disposal considerations**

- **13.1 Waste treatment methods**
- Recommendation                                Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue	
08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances
HP3	Flammable
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

- Uncleaned packaging:
- Recommendation:                                Disposal must be made according to official regulations.

**SECTION 14: Transport information**

· <b>14.1 UN-Number</b>	UN1263
· ADR/RID/ADN, IMDG, IATA	
· <b>14.2 UN proper shipping name</b>	1263 PAINT
· ADR/RID/ADN	PAINT
· IMDG, IATA	
· <b>14.3 Transport hazard class(es)</b>	
· ADR/RID/ADN	
· Class	3 (F1) Flammable liquids.
· Label	3
-----	
· IMDG, IATA	
· Class	3 Flammable liquids.
· Label	3
· <b>14.4 Packing group</b>	III
· ADR/RID/ADN, IMDG, IATA	
· <b>14.5 Environmental hazards:</b>	
· Marine pollutant:	No

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<ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> <li>· Hazard identification number (Kemler code):</li> <li>· EMS Number:</li> <li>· Stowage Category</li> </ul>	Warning: Flammable liquids. 30 F-E, S-E A
<ul style="list-style-type: none"> <li>· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> </ul>	
<ul style="list-style-type: none"> <li>· ADR/RID/ADN</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> <li>· Transport category</li> <li>· Tunnel restriction code</li> <li>· Remarks:</li> </ul>	3 D/E In packsize up to 450 liter exempt from ADR according ADR 2.2.3.1.5.
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> <li>· Remarks:</li> </ul>	In packaging up to 30 litres exempt according to IMDG 2.3.2.5.
<ul style="list-style-type: none"> <li>· UN "Model Regulation":</li> </ul>	UN 1263 PAINT, 3, III

### SECTION 15: Regulatory information

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

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I  
None of the ingredients is listed.
- Seveso category  
P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements  
5,000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements  
50,000 t
- REGULATION (EC) No 1907/2006 ANNEX XVII  
Conditions of restriction: 3

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

- National regulations:
- Technical instructions (air):

Class	Share in %
NK	35.1

#### 15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases  
H226 Flammable liquid and vapour.  
H336 May cause drowsiness or dizziness.
- Classification according to Regulation (EC) No 1272/2008  
The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

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Flammable liquids	On basis of test data
Specific target organ toxicity (single exposure)	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

- Department issuing SDS:
- Contact:
- Abbreviations and acronyms:

Research and Development  
 Herman van den Berg, tel: +31 182 372177, e-mail: [safety@de-ijsel-coatings.nl](mailto:safety@de-ijsel-coatings.nl)  
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 ICAO: International Civil Aviation Organisation  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 VOC: Volatile Organic Compounds (USA, EU)  
 DNEL: Derived No-Effect Level (REACH)  
 PNEC: Predicted No-Effect Concentration (REACH)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Flam. Liq. 3: Flammable liquids – Category 3  
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
 Literature data and/or investigation reports are available through the manufacturer.

- Sources:
- \* Data compared to the previous version altered.

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

Trade name: TWEECOLUX  
hardener

Article number: 424  
UFI: GDM4-U035-T003-CJ23

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

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites  
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
SU19 Building and construction work  
Product category PC9a Coatings and paints, thinners, paint removers  
Process category PROC19 Manual activities involving hand contact  
PROC7 Industrial spraying  
PROC10 Roller application or brushing  
PROC11 Non industrial spraying  
Environmental release category ERC5 Use at industrial site leading to inclusion into/onto article  
ERC8c Widespread use leading to inclusion into/onto article (indoor)  
ERC8f Widespread use leading to inclusion into/onto article (outdoor)  
Article category AC13 Plastic articles  
AC7 Metal articles  
AC11 Wood articles  
Application of the substance / the mixture See our technical datasheet for application details of this product.  
Isocyanate hardener for polyurethanes

**1.3 Details of the supplier of the safety data sheet**

Manufacturer/Supplier: De IJssel Coatings BV, Centrumbaan 960, NL 2841 MH Moordrecht  
Tel: +31 182 372177, E-mail: info@de-ijssel-coatings.nl

Further information obtainable from: Research and Development.


**1.4 Emergency telephone number:**

De IJssel Coatings BV, Tel. +31 182 372177, E-mail: safety@de-ijssel-coatings.nl  
Office hours: working days from 08:00 to 17:00 hrs.


**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008

 GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

 GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

 GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H336 May cause drowsiness or dizziness.

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms

    
GHS02 GHS07 GHS08

Signal word Danger

Hazard-determining components of labelling:

hexamethyleendiisocyanaat/toluendiisocyanaat based polyisocyanate  
2-methoxy-1-methylethyl acetate  
4-methyl-m-phenylene diisocyanate  
n-butyl acetate  
hexamethylene-di-isocyanate  
H226 Flammable liquid and vapour.

Hazard statements

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· Precautionary statements	<p>H319 Causes serious eye irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317 May cause an allergic skin reaction. H336 May cause drowsiness or dizziness.</p> <p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 Avoid breathing mist/vapours/spray. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations.</p>
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**· 2.3 Other hazards**

- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

**SECTION 3: Composition/information on ingredients**

**· 3.2 Chemical characterisation: Mixtures**

- Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 26426-91-5	hexamethyleendiisocyanat/tolueendiisocyanat based polyisocyanate ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317	25 – 50%
CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	25 – 50%
CAS: 123-86-4 EINECS: 204-658-1 Index number: 607-025-00-1 Reg.nr.: 01-2119485493-29	n-butyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	25 – 50%
CAS: 584-84-9 EINECS: 209-544-5 Index number: 615-006-00-4 Reg.nr.: 01-2119486974-18	4-methyl-m-phenylene diisocyanate ⚠ Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; Carc. 2, H351; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335; Aquatic Chronic 3, H412 Specific concentration limit: Resp. Sens. 1; H334: C ≥ 0.1 %	0.1 – 0.5%
CAS: 822-06-0 EINECS: 212-485-8 Index number: 615-011-00-1 Reg.nr.: 01-2119457571-37	hexamethylene-di-isocyanate ⚠ Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 Specific concentration limits: Resp. Sens. 1; H334: C ≥ 0.5 % Skin Sens. 1; H317: C ≥ 0.5 %	0.1 – 0.5%

- Additional information: For the wording of the listed hazard phrases refer to section 16.

**SECTION 4: First aid measures**

**· 4.1 Description of first aid measures**

- General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: If symptoms persist consult doctor.

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

No further relevant information available.

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- **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- Suitable extinguishing agents: CO2 or powder. Fight larger fires with alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- Protective equipment: No special measures required.

**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Dispose contaminated material as waste according to item 13.  
 Ensure adequate ventilation.
- **6.4 Reference to other sections** See Section 7 for information on safe handling.  
 See Section 8 for information on personal protection equipment.  
 See Section 13 for disposal information.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.  
 Prevent formation of aerosols.
- Information about fire - and explosion protection: Keep ignition sources away - Do not smoke.  
 Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep container tightly sealed.
- Recommended storage temperature: 5 - 30 °C
- **7.3 Specific end use(s)** No further relevant information available.

**\* SECTION 8: Exposure controls/personal protection**

- Additional information about design of technical facilities: No further data; see item 7.

**8.1 Control parameters**

- Ingredients with limit values that require monitoring at the workplace:

**108-65-6 2-methoxy-1-methylethyl acetate**

IOELV	Short-term value: 550 mg/m <sup>3</sup> , 100 ppm Long-term value: 275 mg/m <sup>3</sup> , 50 ppm Skin
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<b>123-86-4 n-butyl acetate</b>		
IOELV	Short-term value: 723 mg/m <sup>3</sup> , 150 ppm Long-term value: 241 mg/m <sup>3</sup> , 50 ppm	
· DNEL (Derived No Effect Level) for workers		
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Dermal	Long-term - systemic effects, worker	153.5 mg/kg bw/day (Worker)
Inhalative	Long-term - systemic effects, worker	275 mg/m <sup>3</sup> (Worker)
<b>123-86-4 n-butyl acetate</b>		
Inhalative	Acute - systemic effects, worker	960 mg/m <sup>3</sup> (Worker)
	Acute - local effects, worker	960 mg/m <sup>3</sup> (Worker)
	Long-term - systemic effects, worker	480 mg/m <sup>3</sup> (Worker)
	Long-term - local effects, worker	480 mg/m <sup>3</sup> (Worker)
<b>584-84-9 4-methyl-m-phenylene diisocyanate</b>		
Inhalative	Acute - systemic effects, worker	0.14 mg/m <sup>3</sup> (Worker)
	Acute - local effects, worker	0.14 mg/m <sup>3</sup> (Worker)
	Long-term - systemic effects, worker	0.035 mg/m <sup>3</sup> (Worker)
	Long-term - local effects, worker	0.035 mg/m <sup>3</sup> (Worker)
<b>822-06-0 hexamethylene-di-isocyanate</b>		
Inhalative	Acute - systemic effects, worker	0.07 mg/m <sup>3</sup> (Worker)
	Long-term - systemic effects, worker	0.035 mg/m <sup>3</sup> (Worker)
	Long-term - local effects, worker	0.035 mg/m <sup>3</sup> (Worker)
· DNEL (Derived No Effect Level) for the general population		
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Oral	Long-term - systemic effects, general population	1.67 mg/kg bw/day (General population)
Dermal	Long-term - systemic effects, general population	54.8 mg/kg bw/day (General population)
Inhalative	Long-term - systemic effects, general population	33 mg/m <sup>3</sup> (General population)
<b>123-86-4 n-butyl acetate</b>		
Inhalative	Acute - systemic effects, general population	859.7 mg/m <sup>3</sup> (General population)
	Acute - local effects, general population	859.7 mg/m <sup>3</sup> (General population)
	Long-term - systemic effects, general population	102.34 mg/m <sup>3</sup> (General population)
	Long-term - local effects, general population	102.34 mg/m <sup>3</sup> (General population)
· PNEC (Predicted No Effect Concentration) values		
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Aquatic compartment - freshwater		0.635 mg/l (Freshwater)
Aquatic compartment - marine water		0.0635 mg/l (Marine water)
Aquatic compartment - water, intermittent releases		6.35 mg/l (Intermittent release water)
Aquatic compartment - sediment in freshwater		3.29 mg/kg sed dw (Sediment freshwater)
Aquatic compartment - sediment in marine water		0.329 mg/kg sed dw (Marine water)
Terrestrial compartment - soil		0.29 mg/kg dw (Soil)
Sewage treatment plant		100 mg/l (stp)
<b>123-86-4 n-butyl acetate</b>		
Aquatic compartment - freshwater		0.18 mg/l (Freshwater)
Aquatic compartment - marine water		0.018 mg/l (Marine water)
Aquatic compartment - water, intermittent releases		0.36 mg/l (Intermittent release water)
Aquatic compartment - sediment in freshwater		0.981 mg/kg sed dw (Sediment freshwater)
Aquatic compartment - sediment in marine water		0.0981 mg/kg sed dw (Sediment marine water)
Terrestrial compartment - soil		0.0903 mg/kg dw (Soil)
Sewage treatment plant		35.6 mg/l (stp)
<b>584-84-9 4-methyl-m-phenylene diisocyanate</b>		
Aquatic compartment - freshwater		0.013 mg/l (Freshwater)
Aquatic compartment - marine water		0.00125 mg/l (Marine water)
Terrestrial compartment - soil		1 mg/kg dw (Soil)

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Sewage treatment plant	1 mg/l (stp)
<b>822-06-0 hexamethylene-di-isocyanate</b>	
Aquatic compartment - freshwater	0.0774 mg/l (Freshwater)
Aquatic compartment - marine water	0.00774 mg/l (Marine water)
Aquatic compartment - sediment in freshwater	0.01334 mg/kg sed dw (Sediment freshwater)
Aquatic compartment - sediment in marine water	0.001334 mg/kg sed dw (Sediment marine water)
Terrestrial compartment - soil	0.0026 mg/kg dw (Soil)
Sewage treatment plant	8.42 mg/l (stp)

- Additional information: The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- Personal protective equipment:
- General protective and hygienic measures:
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing
  - Wash hands before breaks and at the end of work.
  - Avoid contact with the eyes.
  - Avoid contact with the eyes and skin.
- Respiratory protection: In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- Protection of hands: Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- Material of gloves Nitrile rubber, NBR  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.  
Recommended thickness of the material:  $\geq 0.3$  mm
- Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.  
For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 16523-1:2015: Level 6).
- For the permanent contact gloves made of the following materials are suitable: Nitrile rubber, NBR
- As protection from splashes gloves made of the following materials are suitable: Nitrile rubber, NBR
- Not suitable are gloves made of the following materials: Leather gloves  
Strong material gloves
- Eye protection: Tightly sealed goggles

### SECTION 9: Physical and chemical properties

<b>· 9.1 Information on basic physical and chemical properties</b>	
· General Information	
· Appearance:	
Form:	Fluid
Colour:	According to product specification
· Odour:	Characteristic
· Odour threshold:	Not determined.
· pH-value at 20 °C:	7
· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	124 – 128 °C

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· Flash point:	28 °C (Pensky Martens, ASTM D93)
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	315 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits: Lower: Upper:	1.2 Vol % 10.8 Vol %
· Vapour pressure at 20 °C:	10.7 hPa
· Density at 20 °C: · Relative density · Vapour density · Evaporation rate	1.076 g/cm <sup>3</sup> (DIN 51757, ASTM D 1298) Not determined. Not determined. Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity: Dynamic at 20 °C: Kinematic:	750 mPas (Brookfield, ASTM D1544) Not determined.
· Solvent content: Organic solvents: VOC (2004/42/EC):	57.0 % 56.97 %
· Solids content:	41.9 %
· <b>9.2 Other information</b>	No further relevant information available.
· Additional information Nitrogen content	7.19 %

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- Acute toxicity Based on available data, the classification criteria are not met.
- LD/LC50 values relevant for classification:

Components	Type	Value	Species
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>			
Oral	LD50	8,532 mg/kg	(Rat)
<b>123-86-4 n-butyl acetate</b>			
Oral	LD50	10,760 mg/kg	(Rat)
Dermal	LD50	> 5,000 mg/kg	(Rabbit)

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<b>584-84-9 4-methyl-m-phenylene diisocyanate</b>		
Oral	LD50	5,800 mg/kg (Rat)
<b>822-06-0 hexamethylene-di-isocyanate</b>		
Oral	LD50	738 mg/kg (Rat)
Dermal	LD50	593 mg/kg (Rat)

- Primary irritant effect:
- Skin corrosion/irritation Based on available data, the classification criteria are not met.
- Serious eye damage/irritation Causes serious eye irritation.
- Respiratory or skin sensitisation May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Based on available data, the classification criteria are not met.
- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure May cause drowsiness or dizziness.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- Aquatic toxicity: No further relevant information available.

Type of test	Effective concentration	Method	Assessment
<b>ATE (Acute Toxicity Estimates)</b>			
Inhalative	LC50/4 h		78.8 mg/l

<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Inhalative	LC50/4 h	35.7 mg/l (Rat)
<b>123-86-4 n-butyl acetate</b>		
Oral	EC50	44 mg/l (Daphnia magna)
Inhalative	LC50/4 h	> 21 mg/l (Rat)
	LC50/96 h	18 mg/l (Fish Acute Toxicity Study)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- Additional ecological information:
- General notes: Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- PBT: Not applicable.
- vPvB: Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.

European waste catalogue	
08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances
HP3	Flammable
HP4	Irritant - skin irritation and eye damage
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

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HP13	Sensitising
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- Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

#### SECTION 14: Transport information

· <b>14.1 UN-Number</b> · ADR/RID/ADN, IMDG, IATA	UN1263
· <b>14.2 UN proper shipping name</b> · ADR/RID/ADN · IMDG, IATA	1263 PAINT PAINT
· <b>14.3 Transport hazard class(es)</b> · ADR/RID/ADN · Class · Label	3 (F1) Flammable liquids. 3
· IMDG, IATA · Class · Label	3 Flammable liquids. 3
· <b>14.4 Packing group</b> · ADR/RID/ADN, IMDG, IATA	III
· <b>14.5 Environmental hazards:</b> · Marine pollutant:	No
· <b>14.6 Special precautions for user</b> · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids. 30 F-E, S-E A
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· Transport/Additional information: · ADR/RID/ADN · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category · Tunnel restriction code	3 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1263 PAINT, 3, III

#### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I  
None of the ingredients is listed.
- Seveso category  
P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements  
5,000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements  
50,000 t

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· REGULATION (EC) No 1907/2006  
 ANNEX XVII

Conditions of restriction: 3

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

- National regulations:
- Technical instructions (air):

Class	Share in %
I	0.6
NK	57.0

· **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases
  - H226 Flammable liquid and vapour.
  - H302 Harmful if swallowed.
  - H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - H319 Causes serious eye irritation.
  - H330 Fatal 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.
  - H412 Harmful to aquatic life with long lasting effects.
- Classification according to Regulation (EC) No 1272/2008
 

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

Flammable liquids	On basis of test data
Serious eye damage/eye irritation Respiratory sensitisation Skin sensitisation Specific target organ toxicity (single exposure)	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

- Department issuing SDS: Research and Development
- Contact: Herman van den Berg, tel: +31 182 372177, e-mail: [safety@de-ijsseel-coatings.nl](mailto:safety@de-ijsseel-coatings.nl)
- Abbreviations and acronyms:
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  - ICAO: International Civil Aviation Organisation
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - VOC: Volatile Organic Compounds (USA, EU)
  - DNEL: Derived No-Effect Level (REACH)
  - PNEC: Predicted No-Effect Concentration (REACH)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Flam. Liq. 3: Flammable liquids – Category 3
  - Acute Tox. 4: Acute toxicity - oral – Category 4
  - Acute Tox. 2: Acute toxicity - inhalation – Category 2
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
  - Resp. Sens. 1: Respiratory sensitisation – Category 1
  - Skin Sens. 1: Skin sensitisation – Category 1
  - Carc. 2: Carcinogenicity – Category 2
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
  - Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
- Sources: Literature data and/or investigation reports are available through the manufacturer.
- \* Data compared to the previous version altered.