Safety Data Sheet
acc. to OSHA HCS

Created on - 12/19/2018 – Ver. 1.0

ES-100 System Component : ES-MBP (Moisture Barrier Primer)

1. Identification

Product identifier ·

Trade name	:	ES-MBP (EnviroSTIX Moisture Barrier Primer)
Application of the substance / the mixture	:	Primer/ Subcoating
Details of the supplier of the safety data sheet		
Supplier	:	Base King, LLC 137 Lower Dug Gap Rd. SW Dalton, GA 30720, USA www.baseking.com +1 706 278 2604 +1 888 428 3106
Information department	:	Technical / Product safety department.
Emergency telephone number	:	Emergency CONTACT (24-Hour-Number) +1 706 980 9617 (Chad Schlisner) +1 608 434 1104 (Bill Wiese)

2. Hazard(s) identification

Classification of the substance or mixture: GHS08 Health hazard

Resp. Sens.1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carc. 2	H351	Suspected of causing cancer.
STOT RE.2	H373	May cause damage to organs through prolonged or repeated exposure.

Classification of the substance or mixture: GHS07

Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction
STOT SE 3	H335	May cause respiratory irritation.

(Section contd. on page 2)

Label elements:

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms

Signal word Danger

Hazard-determining components of labeling:
diphenylmethane-4,4'-di-isocyanante,
isomers aromatic polyisocyanate
o-(p-isocyanatobenzyl)phenyl isocyanate
diphenylmethane-2,2'-diisocyanate
diphenylmethanediisocyanate, isomeres and homologues

Hazard statements:

- Harmful if inhaled.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause an allergic skin reaction. Suspected of causing cancer.
- May cause respiratory irritation.
- May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:

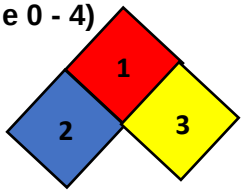
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wear protective gloves/protective clothing/eye protection/face protection.
- [In case of inadequate ventilation] wear respiratory protection.
- **IF INHALED**: Remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
- Continue rinsing.
- Call a poison center/doctor if you feel unwell.
- If experiencing respiratory symptoms: Call a poison center/doctor. Wash contaminated clothing before reuse.
- Store in a well-ventilated place. Keep container tightly closed.
- Store locked up.

(Section contd. on page 3)

Classification system:

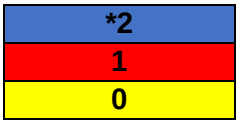
- **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 1
Reactivity = 0



HMIS-ratings (scale 0 - 4)

Health = *2
Fire = 1
Reactivity = 0



Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable

3. Composition/information on ingredients

- **Chemical characterization** : Mixtures
- **Description** : Adhesive

Dangerous components:

- 101-68-8 diphenylmethane-4, 4'-di-isocyanante, isomers : 25-<50%

Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335

- 67815-87-6 aromatic polyisocyanate : 25-<50%

Resp. Sens. 1, H334; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335

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- 5873-54-1 o-(p-isocyanatobenzyl) phenyl Isocyanate : 10%

 Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373;  Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335

- 2536-05-2 diphenylmethane-2, 2'-diisocyanate : 1-<5%

 Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373;  Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335

- 9016-87-9 diphenylmethane-diisocyanate, isomeres and homologues : 1-<5%

 Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373;  Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335

4. First-aid measures

Description of first aid measures / General information:

Symptoms of poisoning may even occur after several hours; therefore, medical observation for at least 48 hours after the accident.

- After inhalation : Supply fresh air; consult doctor in case of complaints
- After skin contact : Clean with water and soap. If possible, also wash with polyethylene glycol 400.
- After eye contact : Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing : Do not induce vomiting; immediately call for medical help.
- Information for doctor :
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use firefighting measures that suit the environment

- For safety reasons unsuitable extinguishing agents : Water with full jet

Special hazards arising from the substance or mixture:

- In case of fire, the following can be Released : Nitrogen oxides (NOx) Carbon monoxide (CO)

  Hydrogen cyanide (HCN) In certain fire conditions, traces of other toxic gases cannot be excluded.

Advice for firefighters

- Protective equipment combustion : Do not inhale explosion gases or gases. Wear self-contained respiratory protective device.

Additional information

Dispose of fire debris and contaminated firefighting water in accordance with official regulations. Collect contaminated firefighting water separately. It must not enter the sewage system.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- Ensure adequate ventilation
- Use respiratory protective device against the effects of fumes/dust/aerosol.

Environmental precautions:

- Do not allow to enter sewers/ surface or ground water.
- Do not allow product to reach sewage system or any water course.

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.

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.

7. Handling and storage

Handling:

Precautions for safe handling

- Prevent formation of aerosols.
- Use only in well ventilated areas

Information about protection against explosions and fires : No special measures required.

Conditions for safe storage, including any incompatibilities

Storage:

- Requirements to be met by storerooms and receptacles : Store only in the original receptacle.
- Information about storage in one common storage facility : Not required.
- Further information about storage conditions **:** Keep receptacle tightly sealed. Protect from heat and direct sunlight

Specific end use(s) : No further relevant information available.

8. Exposure controls/personal protection

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

Control parameters

Components with limit values that require monitoring at the workplace : The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the remaining constituent has no known exposure limits.

101-68-8 diphenylmethane-4,4'-di-isocyanante, isomers

- PEL (USA) Ceiling limit value: 0.2 mg/m³, 0.02 ppm
- REL (USA) Long-term value: 0.05 mg/m³, 0.005 ppm Ceiling limit value: 0.2* mg/m³, 0.02* ppm *10-min
- TLV (USA) Long-term value: 0.051 mg/m³, 0.005 ppm

Additional information : The lists that were valid during the creation were used as basis

Exposure controls

Personal protective equipment:

(Section contd. on page 7)

General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes and skin.

Breathing equipment : Use suitable respiratory protective device in case of insufficient ventilation.

Recommended filter device for short term use : Combination filter A-P2

Protection of hands:

Protective gloves

Preventive skin protection by use of skin-protecting agents is recommended.

Material of gloves

- Nitrile rubber, NBR
- Recommended thickness of the material: ≥ 0.35 mm
- 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.

Penetration time of glove material

- The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed

Eye protection:

Tightly sealed goggles

Body protection:

- Protective work clothing

9. Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:		
Form	:	Fluid
Color	:	Dark Translucent Coat
Odor	:	Characteristic
Odor threshold	:	Not determined.
pH-value	:	Not determined.
Change in condition		
• Melting point/Melting range	:	10 °C (50 °F)
• Boiling point/Boiling range	:	351 °C (663.8 °F)
Flash point	:	210 °C (410 °F)
Flammability (solid, gaseous)	:	Not applicable.
Ignition temperature	:	520 °C (968 °F)
Decomposition temperature	:	Not determined.
Auto igniting	:	Product is not self-igniting.
Danger of explosion	:	Product does not present an explosion hazard.
Explosion limits:		
• Lower	:	Not determined.
• Upper	:	Not determined.
Vapor pressure	:	Not determined.
Density at 20 °C (68 °F)	:	1.17 g/cm³ (9.764 lbs/gal) (EN ISO 2811-1)
Relative density	:	Not determined.
Vapor density	:	Not determined.
Evaporation rate	:	Not determined.
Solubility in / Miscibility with Water	:	Hydrolyzed.
Partition coefficient (n-octanol/water)	:	Not determined
Viscosity:		
• Dynamic at 20 °C (68 °F)	:	300 mPas (ISO 2555)
• Kinematic	:	Not determined.
Solvent content:		
• VOC content	:	0.01 % ·
• Other information	:	No further relevant information available

10. Stability and reactivity

Reactivity	:	No further relevant information available.
Chemical stability		
Thermal decomposition / conditions to be Avoided	:	No decomposition if used according to specifications.

(Section contd. on page 9)

Possibility of hazardous reactions	:	Reacts with alcohols, amines, aqueous acids and alkalis.
Conditions to avoid	:	No further relevant information available.
Incompatible materials	:	No further relevant information available.
Hazardous decomposition products known.	:	No dangerous decomposition products

11 Toxicological information

Information on toxicological effects
Acute toxicity:
LD/LC50 values that are relevant for classification:

101-68-8 diphenylmethane-4,4'-di-isocyanante, isomers
- Oral LD50 9,200 mg/kg (rat)
- Dermal LD50 >9,400 mg/kg (rabbit) (OECD RL 402)

67815-87-6 aromatic polyisocyanate
- Oral LD50 >5,000 mg/kg (rat) (OECD RL 423)

5873-54-1 o-(p-isocyanatobenzyl)phenyl isocyanate
- Oral LD50 >5,000 mg/kg (rat) (RL 84/449/EWG, B.1)
- Dermal LD50 >9,400 mg/kg (rabbit) (OECD RL 402)

2536-05-2 diphenylmethane-2,2'-diisocyanate
- Oral LD50 >15,000 mg/kg (rat)

9016-87-9 diphenylmethanediisocyanate, isomeres and homologues
- Oral LD50 >10,000 mg/kg (rat) (OECD RL 401)
- Dermal LD50 >9,400 mg/kg (rabbit) (OECD RL 402)

Primary irritant effect:
- on the skin : Irritant to skin and mucous membranes.
- on the eye : Irritating effect

Sensitization:
- Sensitizing effect through inhalation is possible with prolonged exposure.
- Sensitizing effect by skin contact is possible with prolonged exposure.
- Sensitization possible through inhalation.
- Sensitization possible through skin contact.

Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

(Section contd. on page 9)

Carcinogenic categories
IARC (International Agency for Research on Cancer)

9016-87-9 diphenylmethanediisocyanate, isomeres and homologues: 3

101-68-8 diphenylmethane-4,4'-di-isocyanante, isomers: 3

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity
Aquatic toxicity:

101-68-8 diphenylmethane-4,4'-di-isocyanante, isomers

NOEC/21d	>10 mg/l (Daphnia magna) (OECD RL 202)
LC50/96h	>1,000 mg/l (Brachydanio rerio) (OECD RL 203)
LC0/96h	>1,000 mg/l (Brachydanio rerio)
EC50/24h	>1,000 mg/l (Daphnia magna) (OECD RL 202)
EC50/3h	>100 mg/l (sludge) (OECD RL 209)
EC50/72h	1,640 mg/l (Desmodesmus subspicatus) (OECD RL 201)
IC50/48h	>100 mg/l (Escherichia coli)

67815-87-6 aromatic polyisocyanate

EC50/3h	>1,000 mg/l (sludge) (OECD RL209)

5873-54-1 o-(p-isocyanatobenzyl)phenyl isocyanate

NOEC/21d	>10 mg/l (Daphnia magna) (OECD RL 202)
LC50/96h	>1,000 mg/l (Danio rerio) (OECD RL 203)
EC50/24h	>1,000 mg/l (Daphnia magna) (OECD RL 202)
EC50/3h	>100 mg/l (sludge) (OECD RL 209)
EC50/72h	>1,640 mg/l (Scenedesmus subspicatus) (OECD RL 201)

9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

LC50/96h	>1,000 mg/l (Danio rerio)
LC0/96h	>1,000 mg/l (Brachydanio rerio)
EC50/24h	>100 mg/l (bacteriums)

(Section contd. on page 11)

EC50/48h >1,000 mg/l (Daphnia magna)
EC50/3h >100 mg/l (sludge) (OECD 209)

Persistence and degradability : No further relevant information available.
Behavior in environmental systems :
Bio-accumulative potential : No further relevant information available.
Mobility in soil : No further relevant information available. ·
Additional ecological information:
General notes:
Water hazard class 1 (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
Results of PBT and vPvB assessment

- PBT : Not applicable.
- vPvB : Not applicable.
- Other adverse effects : No further relevant information available

13. Disposal considerations

Waste treatment methods
Recommendation:
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Must be specially treated adhering to official regulations.
Uncleaned packaging:
Recommendation : Disposal must be made according to official Regulations

14. Transport information

UN-Number

- DOT, ADR, ADN, IMDG, IATA : Void

UN proper shipping name

- DOT, ADR, ADN, IMDG, IATA : Void

Transport hazard class(es)

- DOT, ADR, ADN, IMDG, IATA ·
  - Class : Void

Packing group

- DOT, ADR, IMDG, IATA : Void

Environmental hazards:

- Marine pollutant : No

(Section contd. on page 12)

Special precautions for user	:	Not applicable.
Transport in bulk according to Annex II Of MARPOL73/78 and the IBC Code	:	Not applicable.
Transport/Additional information	:	Not dangerous according to the above specifications.
DOT		
Remarks	:	not regulated
ADR		
Remarks	:	not regulated
IMDG		
Remarks	:	not regulated
IATA		
Remarks	:	not regulated
UN "Model Regulation"	:	Void

15. Regulatory information

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

Section 355 (extremely hazardous substances)	:	None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):
101-68-8 diphenylmethane-4,4'-di-isocyanante, isomers (25-<50%)
9016-87-9 diphenylmethanediisocyanate, isomeres and homologues (1-<5%)

TSCA (Toxic Substances Control Act	:	All ingredients are listed or are not required to be listed on the TSCA inventory.
Proposition 65 · Chemicals known to cause cancer	:	None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for females	:	None of the ingredients is listed.
Chemicals known to cause reproductive Toxicity for males	:	None of the ingredients is listed.
Chemicals known to cause Developmental Toxicity	:	None of the ingredients is listed.

(Section contd. on page 13)

New Jersey Right-to-Know List : 101-68-8 diphenylmethane-4,4'-di-isocyanante, isomers
: 9016-87-9 diphenylmethane-diisocyanate, isomeres and homologues

New Jersey Special Hazardous Substance List : None of the ingredients is listed.

Pennsylvania Right-to-Know List : 101-68-8 diphenylmethane-4,4'-di-isocyanante, isomers

Pennsylvania Special Hazardous Substance List : 101-68-8 diphenylmethane-4,4'-di-isocyanante, isomers: E

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

GHS07

GHS08

Signal word : Danger

Hazard-determining components of labeling:

diphenylmethane-4,4'-di-isocyanante, isomers aromatic polyisocyanate o-(p-isocyanato benzyl) phenyl isocyanate diphenylmethane-2,2'-diisocyanate diphenylmethanediisocyanate, isomers and homologues

Hazard statements

- Harmful if inhaled.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause an allergic skin reaction.
- Suspected of causing cancer.
- May cause respiratory irritation.
- May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wear protective gloves/protective clothing/eye protection/face protection. [In case of inadequate ventilation] wear respiratory protection.
- **IF INHALED** : Remove person to fresh air and keep comfortable for breathing.

(Section contd. on page 14)

If in eyes	:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell.
If experiencing respiratory symptoms	:	Call a poison center/doctor.

Wash contaminated clothing before reuse.
Store in a well-ventilated place.
Keep container tightly closed.
Store locked up.

National regulations:

VOC:

• **VOC (EU)**	:	0.1 g/l ·
• **VOC (USA)**	:	0.1 g/l / 0.00 lb/gl
• **Chemical safety assessment**	:	A Chemical Safety Assessment has not been carried out.

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

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- 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.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.

Date of preparation / last revision 03/21/2018 / 1.0

Abbreviations and acronyms:

- 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
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- 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)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- VOC: Volatile Organic Compounds (USA, EU)
- MAL-Code: Måleteknisk Arbejdshygiejnisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark)
- LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- OSHA: Occupational Safety & Health TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- 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
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2