

Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

SAFETY DATA SHEET

1 Identification of chemical product and information on the manufacturer and/or supplier

Product Name: Filler hardener 4+1, Filler hardener 5+1

Manufacturer / supplier:

ECOPOL LLC.

35, Suvorova str., Dzerzhinsk, Nizhny Novgorod region, 606010, Russia

Telephone: (8313) 230351; 230839; 230781; 230746

Tel./fax: (8313) 254103; 274016

1.2 Emergency phone:

In an emergency, contact the National Center for Emergency Care.

2 Hazard (hazards) identification

2.1 Classification of the substance or mixture

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

H226: Flammable liquid. Vapours form explosive mixtures with air

Highly flammable liquid. Hazard category 3

H317: May cause an allergic skin reaction

Skin sensitization. Hazard category 1

H319: Causes serious eye irritation

Serious eye damage / eye irritation. Hazard category 2

H332: Harmful if inhaled.

Acute toxicity (inhal.), Hazard Category 4

H335: May cause respiratory irritation

Specific target organ toxicity. Hazard category 3

H336: May cause drowsiness or dizziness.

Specific target organ toxicity. Hazard category 3

· 2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008

This product is classified and labelled according to the Regulation on the classification, labelling and packaging of substances and mixtures (CLP).

· Hazard pictograms



GHS02 GHS07

· Signal word Warning

· Hazard-determining components of labelling:

Isocyanates

Xylene

n-butyl acetate

· Hazard statements

H226: Flammable liquid. Vapours form explosive mixtures with air

H317: May cause an allergic skin reaction

H319: Causes serious eye irritation

H332: Harmful if inhaled.

H335: May cause respiratory irritation

H336: May cause drowsiness or dizziness.

· Precautionary statements

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

- P280: Wear protective gloves/protective clothing/eye protection/face protection.

- P261: Avoid breathing dust/fumes/gas/mist/vapours/spray;

- P271: Use only outdoors or in a well-ventilated area.

- P312: Get medical advice if you feel unwell.

Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

- P273: Avoid release to the environment.
- P102: Store out of children's reach.

2.3 Other hazards









No information available.

3 Composition (information on ingredients)

3.2 Chemical characterization: Mixtures






· **Description:** Mixture of substances listed below with nonhazardous additives.

· **Contained hazardous substances:**

Chemical name	H-statements	Pictograms, signal word (codes)
Hexamethylene-1,6-diisocyanate oligomer Concentration, % (by weight) 8 to 26 CAS No. 28182-81-2 EINECS No. 931-274-8 Index Number REACH No. 01-2119485796-17- XXXX	Skin Sens. 1 Acute Tox. 4 STOT SE 3	H317 H332 H335  GHS07 Wng
Hexamethylene-1,6-diisocyanate Concentration, % (by weight) < 0.1 CAS No. 822-06-0 EINECS No. 212-485-8 Index Number 615-011-00-1 REACH No. 01-2119457571-37- XXXX	Resp. Sens. 1 Skin Sens. 1 Skin Irrit. 2 Eye Irrit. 2 STOT SE 3 Acute Tox. 3 *	H334 H317 H315 H319 H335 H331  GHS06  GHS08 Dgr
Toluene diisocyanate oligomer Concentration, % (by weight) 8 to 25 CAS No. 53317-61-6 EINECS No. 500-120-8 Index Number REACH:	Eye Irrit. 2 Skin Sens. 1	H319 H317  GHS07 Wng
Toluene diisocyanate Concentration, % (by weight) < 0.1 CAS No. 26471-62-5 EINECS No. 247-722-4 Index Number 615-006-00-4 REACH No. 01-2119454791-34-XXX	Resp. Sens. 1 Skin Sens. 1 Skin Irrit. 2 Eye Irrit. 2 Acute Tox. 2 Aquatic Chronic 3 STOT SE 3 Carc. 2	H334 H317 H315 H319 H330 H412 H335 H351  GHS06  GHS08 Dgr
Butyl acetate Concentration, % (by weight) 14 to 43 CAS No. 123-86-4 EINECS No. 204-658-1 Index Number 607-025-00-1 REACH No. 01-2119485493-29- XXXX	Flam. Liq. 3 STOT SE 3	H226 H336  GHS02  GHS07 Wng

Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

<i>Chemical name</i>	<i>H-statements</i>	<i>Pictograms, signal word (codes)</i>
Dimethylbenzene (xylene) Concentration, % (by weight) 13 to 40 CAS No. 1330-20-7 EINECS No. 215-535-7 Index Number 601-022-00-9 REACH No. 01-2119488216-32- XXXX	Flam. Liq. 3 Acute Tox. 4 * Skin Irrit. 2 Acute Tox. 4 *	H226  GHS02 H312  GHS07 H315 H332 Wng
Ethyl acetate Concentration, % (by weight) 5 to 14 CAS No. 141-78-6 EINECS No. 205-500-4 Index Number 607-022-00-5 REACH No. 01-2119475103-46- XXXX	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225  GHS02 H319  GHS07 H336 Dgr
1-methoxypropane-2-ol acetate (methoxypropyl acetate) Concentration, % (by weight) 0 to 10 CAS No. 108-65-6 EINECS No. 203-603-9 Index Number 607-195-00-7 REACH No. 01-2119475791-29-XXXX	Flam. Liq. 3	H226  GHS02 Wng

4 First aid measures

· 4.1 Description of first aid measures

· General advice:

Immediately remove any clothing contaminated by this product.

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

· After inhalation:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness bring patient into stable side position for transport.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Get medical attention.

· After eye contact:

Rinse opened eye for several minutes under running water; then consult doctor.

Remove contact lenses if any, continue rinsing.

· After swallowing:

Rinse mouth and drink plenty of water. DO NOT induce vomiting. Get medical attention.

· 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

Symptomatic treatment

5 Fire-fighting measures

· 5.1 Extinguishing media

· Suitable extinguishing agents:

CO₂, extinguishing powder or water spray jet.

Fight larger fires with water spray jet or alcohol resistant foam.

· For safety reasons unsuitable extinguishing agents:

Full water jet

· 5.2 Special hazards arising from the substance or mixture

The following substances can be released in case of fire:



Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

Carbon monoxide (CO) and carbon dioxide (CO₂), nitrogen oxides, vapors of isocyanate and traces of hydrogen cyanide.

· 5.3 Advice for firefighters

· **Protective equipment:** Wear self-contained respiratory protective device. Use respiratory protection equipment with forced air ventilation.

· Additional information

Cool endangered containers with water spray jet.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing. Keep unprotected people away.

Provide for sufficient ventilation.

Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Avoid contact with eyes and skin.

· 6.2 Environmental precautions:

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

Inform respective authorities in case of seepage into water course or sewage system.

· 6.3 Methods and materials for containment and cleaning up:

Provide for sufficient ventilation.

Absorb with liquid-binding wet material (sand, diatomite, chemical binder based on calcium silicate, universal binders, sawdust). After one hour, collect in a suitable container. Do not close waste container tight (CO₂ development).

Keep damp and allow to stand in a safe place outdoors for several days.

Dispose contaminated material as waste according to guidelines.

· 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.

7 Handling and storage of chemicals.

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level (fumes are heavier than air).

Limit the amount of stocks at the workplace.

Use only in well ventilated areas.

Avoid contact with eyes and skin.

Do not breathe smoke / spray.

Ensure the check of the total used area of the production premise.

· Information about fire and explosion protection:

Fumes can combine with air to form an explosive mixture.

Flammable gas and air mixtures may be formed in empty containers.

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

Take precautionary measures against static discharge.

Apply explosion-proof instruments / valves and sparkless tools.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· Storage requirements to be met by storerooms and containers:

Store in a cool location.

Observe the rules for storage of flammable liquids.

Observe water protection rules.

· Information about storage in one common storage facility:

Observe the rules for storage of flammable liquids.

· Further information about storage conditions:

Store receptacle in a well ventilated area.

Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

8 Exposure controls/personal protection

· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

CAS No. 822-06-0 Hexamethylene-1,6-diisocyanate

OEL 0.035 mg/m³

CAS No. 26471-62-5 Toluene diisocyanate

OEL 0.05 mg/m³

CAS No. 123-86-4 n-butyl acetate

OEL (RF) short-term maximum: 200 mg/m³
shift-average: 50 mg/m³

CAS No. 1330-20-7 xylene (isomer mixture)

OEL (RF) short-term maximum: 150 mg/m³
shift-average: 50 mg/m³

CAS No. 141-78-6 ethyl acetate

OEL (RF) short-term maximum: 200 mg/m³
shift-average: 50 mg/m³

CAS No. 108-65-6 1-methoxypropane-2-ol acetate

OEL (RF) short-term maximum: 10 mg/m³

MAC (maximum allowable concentration, USA): 50 ppm; 275 mg/m³;

DNEL values

CAS No. 123-86-4: n-butyl acetate

Area of application: worker (Inhalation)

Potential effects on health: Long-term exposure, systemic effects: 48 mg/m³

Area of application: worker (Inhalation)

Potential effects on health: Short-term exposure: no information available

Area of application: worker (dermatitis)

Potential effects on health: Long-term exposure, systemic effects: 7 mg/kg bw/day

Area of application: worker (dermatitis)

Potential effects on health: Short-term exposure: no information available

CAS No. 1330-20-7: xylene

Area of application: worker (Inhalation)

Potential effects on health: Long-term exposure, systemic effects: 77 mg/m³

Area of application: worker (Inhalation)

Potential effects on health: Short-term exposure, systemic and local effects: 289 mg/m³

Area of application: worker (dermatitis)

Potential effects on health: Long-term exposure, systemic effects: 180 mg/kg bw/day

Area of application: worker (dermatitis)

Potential effects on health: Short-term exposure, local effects: no information available

CAS No. 141-78-6 ethyl acetate

Area of application: worker (Inhalation)

Potential effects on health: Long-term exposure, systemic and local effects: 734 mg/m³

Area of application: worker (Inhalation)

Potential effects on health: Short-term exposure, systemic and local effects: 1468 mg/m³

Area of application: worker (dermatitis)

Potential effects on health: Long-term exposure, systemic effects: 63 mg/kg bw/day

Area of application: worker (dermatitis)

Potential effects on health: Short-term exposure, local effects: no information available

CAS No. 108-65-6: 1-methoxypropane-2-ol acetate

Area of application: worker (Inhalation)

Potential effects on health: Long-term exposure, systemic effects: 275 mg/m³

Potential effects on health: Short-term exposure, local effects: 550 mg/m³

Area of application: worker (dermatitis)

Potential effects on health: Long-term exposure, systemic effects: 796 mg/kg bw/day

Potential effects on health: Short-term exposure, local effects: not identified

Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

PNEC values

CAS No. 123-86-4: n-butyl acetate

freshwater: 0.18 mg/l

marine water: 0.018 mg/l

soil: 0.09 mg/kg soil dw

CAS No. 1330-20-7: xylene

freshwater: 0.327 mg/l

marine water: 0.327 mg/l

soil: 2.31 mg/kg soil dw

CAS No. 141-78-6ethyl acetate

freshwater: 0.24 mg/l

marine water: 0.024 mg/l

soil 0.148 mg/kg soil dw

CAS No. 108-65-6: 1-methoxypropane-2-ol acetate

freshwater: 0.635 mg/l

marine water: 0.064 mg/l

soil: 0.29 mg/kg soil dw

· Additional information:

The lists valid during manufacture were used as basis.

· 8.2 Exposure controls / personal protection

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Do not eat, drink, smoke or sniff while working.

Immediately remove all soiled and contaminated clothing.

Do not inhale gases/fumes/sprays.

Avoid contact with eyes and skin.

Wash hands before breaks and at the end of work.

Do not put the product-soaked rags in trouser pockets.

· Respiratory protection:

If workplaces are well-ventilated precautions are not required.

· Hand protection:

Rubber gloves.

· Eye protection: *Tightly sealed safety glasses*

· Body protection:

Protective work clothing

Body protection must be chosen depending on the type of activity and possible exposure.

· Environmental exposure controls

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

9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General information

Appearance

Liquid

Colour

Colourless or slightly yellowish

Odour

Of organic solvents

pH

Not specified

Boiling point

Not specified

Flash point (Closed cup)

Plus 29⁰C (butyl acetate)

Plus 24⁰C (dimethylbenzene)

Minus 3⁰C (ethyl acetate)

Plus 45⁰C (1-methoxypropane-2-ol acetate)

Self-ignition temperature

Plus 370⁰C (butyl acetate)

Plus 494⁰C (dimethylbenzene)

Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

Density, g/cm ³	Plus 400°C (ethyl acetate) Plus 315°C (1-methoxypropane-2-ol acetate) 0.9, not less than
Viscosity (relative, sec)	Not specified
Lower explosion limit, % by volume	2.2 (butyl acetate) 1.0 (dimethylbenzene) 3.6 (ethyl acetate) 1.5 (1-methoxypropane-2-ol acetate)
Upper explosion limit, % by volume	14.7 (butyl acetate) 6.0 (dimethylbenzene) 16.8 (ethyl acetate) 7.0 (1-methoxypropane-2-ol acetate)
Vapour density (Pa/at 20°C)	Not specified
Solids content, % by weight	28, not less than
Solubility in water	Contact with water releases CO ₂

• **9.2 Other information** No further relevant information available.

10 Stability and reactivity

10.1 Chemical stability

Exothermic reaction: with amines, alcohols. When interacting with water, it forms CO₂.

10.2 Reactivity

None under recommended storage and handling conditions.

10.3 Conditions to avoid

Direct sunlight, high temperatures, open flames, sparks.

Contact with strong oxidizing agents, peroxides, strong acids and bases.

10.4 Hazardous decomposition products

Thermal decomposition can release carbon monoxide and other toxic gases.

11 Toxicological information

• **11.1 Information on toxicological effects**

• **Acute toxicity:**

• **LD/LC50 (lethal dose/concentration) values relevant for classification:**

CAS No. 123-86-4 n-butyl acetate

Oral (by mouth) LD50 14,130 mg/kg (rat)

Dermal (through the skin) LD50 >17,600mg/kg (rabbit)

CAS No. 1330-20-7 xylene (isomer mixture)

Oral (by mouth) LD50 3523 mg/kg (rat)

Dermal (through the skin) LD50 12,126 mg/kg (rabbit)/by m-xylene

Inhalation LC50/4 h 27,124 mg/m³ (rat)

CAS No.141-78-6ethyl acetate

Oral (by mouth) LD50 10,200mg/kg (rat)

Dermal (through the skin) LD50 > 20,000 mg/kg (rabbit)

Inhalation LC0/6 h>6000ppm (22.5 mg/l)(rat)

CAS No. 108-65-6: 1-methoxypropane-2-ol acetate

Oral (by mouth) LD50 5465 to 7553 mg/kg (rat)

Dermal (through the skin) LD502000 mg/kg (rat)

• **Primary irritant effect:**

• **on the skin:** Prolonged or repeated contact may defeat the skin and result in dermatitis. May cause allergic reactions.

• **on the eye:** Irritant effect.

• **Subacute to chronic toxicity:** not classified

• **Additional toxicological information:**

The product shows the following hazards according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:



Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

Harmful

Irritant

Danger of skin absorption.

- **Information on the following groups of potential effects:**
- Sensitization No sensitizing effects known.
- Repeated dose toxicity not determined
- Carcinogenicity, mutagenicity and toxicity for reproduction
According to present knowledge no CMR-effects known.

12 Ecological information

• 12.1 Toxicity

CAS No. 123-86-4 n-butyl acetate

ErC50/72 h 648 mg/l (*Scenedesmus subspicatus*) growth inhibition in algae

EC50/48h 44 mg/l (*Daphnia* sp.) for aquatic invertebrates

LC50/96 h 18 mg/l (*Pimephales promelas*) / for fish

CAS No. 1330-20-7 xylene (isomer mixture)

EbC50/73 h 2.2 mg/l (*Selenastrum capricornutum*)(by p-xylene) / for algae

EC50/48 h >3.4 mg/l (*Ceriodaphnia dubia*)(by m-xylene) / for aquatic invertebrates

LC50/96h 11.23 mg/l (*Bryconamericus iheringii*)(by m-xylene)/for fish

NOEC/56 days >1.3mg/l (*Salmo gairdneri*)/ for fish

CAS No.141-78-6 ethyl acetate

EC50/48 h 5600 mg/l (*Scenedesmus subspicatus* (new name: *Desmodesmus subspicatus*)/ for algae

NOEC > 100 mg/l (*Scenedesmus subspicatus* (new name: *Desmodesmus subspicatus*)/ for algae

EC50/24 h 3090 mg/l (*Daphnia magna*) / for aquatic invertebrates

LC50/96 h 220 mg/l (*Pimephales promelas*) / for fish

CAS No. 108-65-6: 1-methoxypropane-2-ol acetate

EC50/72h > 1000 mg/l. (*Selenastrum capricornutum*) /for algae

EC50/48 h 373 mg/l (*Daphnia magna*) / for aquatic invertebrates

LC50/96h >100 mg/l (*oryzias latipes*) /for fish

• 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:

The product contains volatile organic components. Do not allow product to reach ground, water, water course or sewage system and biological treatment plants.

• 12.5 Results of PBT and vPvB assessment

• PBT: No information available.

• vPvB: No information available.

• 12.6 Other adverse effects No further relevant information available.

13 Disposal considerations

• 13.1 Waste treatment methods

• Recommendation:

Disposal must be made according to official regulations.

• European waste catalogue

Waste disposal key numbers have to be assigned depending on origin and processing.

• Uncleaned packaging:

• Recommendation:

Must not be disposed of together with household garbage. Contaminated packaging must be transported to the companies authorized to collect, recycle or dispose waste.

Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

14 Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	1866	1866	1866
14.2 UN shipping name		RESIN SOLUTION	
14.3 Transport classification	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards:	No	No	No
· Marine pollutant:			
14.6 Special precautions for user	Do not transport together with materials of class 1; class 4.2; class 4.3; class 5. Do not use open flame and no smoking		

15 Regulatory information

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

· **National regulations:**

· **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

· **15.2 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.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
RID:	Regulations Concerning the International Transport of Dangerous Goods by Rail
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)
REACH:	Registration Evaluation and Authorisation of Chemicals
DNEL:	Derived No-Effect Level (REACH)
PNEC:	Predicted No-Effect Concentration (REACH)
NOEC:	No observed effect concentration
LC50:	Lethal concentration, 50 percent
LD50:	Lethal dose, 50 percent
Skin Sens. 1	Skin Sensitisation Category 1
Acute Tox. 4 *	Acute toxicity, Hazard Category 4
STOT SE 3	Specific target organ toxicity. Hazard category 3
Resp. Sens. 1	Respiratory Sensitisation Category 1
Skin Irrit. 2	Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2	Serious Eye Damage / Eye Irritation Category 2
Acute Tox. 3	Acute Toxicity – Inhalation Hazard Category 3
Acute Tox. 2	Acute Toxicity – Inhalation Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – chronic Category 3
Carc. 2	Carcinogenicity Category 2
Flam. Liq. 3	Flammable liquids, Hazard Category 3
Flam. Liq. 2	Flammable liquids, Hazard Category 2
GHS02	Hazard pictogram: flame
GHS06	Hazard pictogram: skull and crossbones
GHS07	Hazard pictogram: exclamation mark
GHS08	Hazard pictogram: health hazard
GHS09	Hazard pictogram: environment
Wng	Warning
Dgr	Danger
H225:	Highly flammable liquid and vapour. Vapours form explosive mixtures with air
H226:	Flammable liquid. Vapours form explosive mixtures with air



Filler hardener 4+1, Filler hardener 5+1

28/11/2016 Version No. 3

- H312: *Harmful in contact with skin*
- H315: *Causes skin irritation*
- H317: *May cause an allergic skin reaction*
- H319: *Causes serious eye irritation*
- H330: *Fatal if inhaled*
- H331: *Toxic if inhaled*
- 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: *This product suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*
- H412: *Toxic to aquatic life with long lasting effects*