
SECTION 1: Identification

1.1 Product identifier

Product name	RSP RH4201 Urethane Hardener
Product number	RSP RH4201
Brand	GSP

1.2 Other means of identification

Hexamethylene Diisocyanate (HDI homopolymer)

1.3 Recommended use of the chemical and restrictions on use

Automotive Refinish. For industrial use only.

1.4 Supplier's details

Name	Global Solutions Packaging
Address	550 Edwin Street Westland, MI 48186 U.S.A.
Telephone	734-335-6665
Fax	734-335-6669
email	paulw@globalsolutionstech.com

1.5 Emergency phone number(s)

Chemtrec: 800-424-3900

SECTION 2: Hazard identification

General hazard statement

May cause allergy or asthma symptoms or breathing difficulties if inhaled
Harmful if inhaled.

May cause an allergic skin reaction.

Hazard statement(s): Highly flammable liquid and vapor. Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs (kidneys) through prolonged or repeated exposure. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. Hexaamethylene Diisocyanate Polymer reacts slowly with water to form urea. Keep product away from high moisture and/or sources of water.

Hazard statement(s): Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Suspected of damaging fertility or the unborn child. May cause damage to organs (Liver, kidneys and Lungs) through prolonged or repeated exposure. Causes skin irritation. Causes serious eye irritation.

2.1 Classification of the substance or mixture

GHS classification in accordance with: (US) OSHA (29 CFR 1910.1200)

- Flammable liquids, Cat. 1
- Eye damage/irritation, Cat. 2A
- Sensitization, skin, Cat. 1B
- Toxic to reproduction, Cat. 1B
- Specific target organ toxicity (repeated exposure), Cat. 2
- Skin corrosion/irritation, Cat. 2
- Acute toxicity, inhalation, Cat. 3
- Acute toxicity, inhalation, Cat. 4
- Sensitization, respiratory, Cat. 1
- Sensitization, skin, Cat. 1
- Specific target organ toxicity (single exposure), Cat. 3
- Toxic to reproduction, Cat. 2

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2.2 GHS label elements, including precautionary statements Pictogram



Signal word **Danger**

Hazard statement(s)

H225	Highly flammable liquid and vapor
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
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
H360	May damage fertility or the unborn child [effect, route]
H361	Suspected of damaging fertility or the unborn child [effect, route]
H373	May cause damage to organs [organs] through prolonged or repeated exposure [route]

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/.../ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash ... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P311	Call a POISON CENTER/doctor/...
P312	Call a POISON CENTER/doctor/.../ if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see ... on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use ... to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to ...

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2.3 Other hazards which do not result in classification

Precautionary statement(s)

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

[In case of inadequate ventilation] wear respiratory protection.

Avoid breathing mist/vapors/spray.

Contaminated work clothing should not be allowed out of the workplace.

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking. Keep container tightly closed. For large container, ground and bond container and receiving

equipment. Use explosion-proof electrical, ventilating and lightning equipment. Use non-sparking tools. Take

action to prevent static discharges. Do not breathe mist, vapors and spray. Use only outdoors or in a well-

ventilated area. Wear protective gloves, protective clothing, eye and face protection. Wash thoroughly after

handling. Contaminated work clothing should not be allowed out of the workplace. Keep product away from high

moisture environments or water source.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. HEXAMETHYLENE DIISOCYANATE

Concentration 25 - 35 % (weight)

EC no. 212-485-8

CAS no. 28182-81-2

Index no. 615-011-00-1

- Acute toxicity, inhalation, Cat. 3
- Specific target organ toxicity (single exposure), Cat. 3
- Skin corrosion/irritation, Cat. 2
- Serious eye damage/eye irritation, Cat. 2
- Sensitization, respiratory, Cat. 1
- Sensitization, skin, Cat. 1

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H319 Causes serious eye irritation

H331 Toxic if inhaled

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

H335 May cause respiratory irritation

2. Butyl acetate

Concentration 5 - 10 % (weight)

EC no. 204-658-1

CAS no. 123-86-4

Index no. 607-025-00-1

- Flammable liquids, Cat. 3
- Specific target organ toxicity (single exposure), Cat. 3

H226 Flammable liquid and vapor

H336 May cause drowsiness or dizziness

3. Toluene

Concentration 35 - 45 % (weight)

EC no. 203-625-9

CAS no. 108-88-3

Index no. 601-021-00-3

- Flammable liquids, Cat. 2
- Toxic to reproduction, Cat. 2

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- Aspiration hazard, Cat. 1
- Specific target organ toxicity (repeated exposure), Cat. 2
- Skin corrosion/irritation, Cat. 2
- Specific target organ toxicity (single exposure), Cat. 3

H225 Highly flammable liquid and vapor
H304 May be fatal if swallowed and enters airways
H315 Causes skin irritation
H336 May cause drowsiness or dizziness
H361 Suspected of damaging fertility or the unborn child [effect, route]
H361d
H373 May cause damage to organs [organs] through prolonged or repeated exposure [route]
H401 Toxic to aquatic life
H412 Harmful to aquatic life with long lasting effects

4. Propanol, 1(or 2)-methoxy-, acetate

Concentration 20 - 30 % (weight)
CAS no. 108-65-6

- Flammable properties, Classification OSHA/NFPA Class II Combustible Liq

5. 4-isocyanatosulphonyltoluene

Concentration 0.15 - 0.25 % (weight)
EC no. 223-810-8
CAS no. 4083-64-1
Index no. 615-012-00-7

- Specific target organ toxicity (single exposure), Cat. 3
- Skin corrosion/irritation, Cat. 2
- Serious eye damage/eye irritation, Cat. 2
- Sensitization, respiratory, Cat. 1

H315 Causes skin irritation
H319 Causes serious eye irritation
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 May cause respiratory irritation

6. 1,2,4-Trimethylbenzene

Concentration 1 - 1.5 % (weight)
EC no. 202-436-9
CAS no. 95-63-6
Index no. 601-043-00-3

- Flammable liquids, Cat. 3
- Acute toxicity, inhalation, Cat. 4
- Specific target organ toxicity (single exposure), Cat. 3
- Skin corrosion/irritation, Cat. 2
- Serious eye damage/eye irritation, Cat. 2
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2

H226 Flammable liquid and vapor
H315 Causes skin irritation
H319 Causes serious eye irritation
H332 Harmful if inhaled
H335 May cause respiratory irritation
H411 Toxic to aquatic life with long lasting effects

7. Mesitylene

Concentration 0.2 - 0.3 % (weight)
EC no. 203-604-4

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CAS no. 108-67-8
Index no. 601-025-00-5

- Flammable liquids, Cat. 3
- Specific target organ toxicity (single exposure), Cat. 3
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2

H226 Flammable liquid and vapor
H335 May cause respiratory irritation
H411 Toxic to aquatic life with long lasting effects

8. Xylene

Concentration 0.1 - 0.13 % (weight)
EC no. 215-535-7
CAS no. 1330-20-7
Index no. 601-022-00-9

- Flammable liquids, Cat. 3
- Acute toxicity, inhalation, Cat. 4
- Acute toxicity, dermal, Cat. 4
- Skin corrosion/irritation, Cat. 2
- Eye damage/irritation, Cat. 2A
- Aspiration hazard, Cat. 1

H226 Flammable liquid and vapor
H304 May be fatal if swallowed and enters airways
H312 Harmful in contact with skin
H315 Causes skin irritation
H319 Causes serious eye irritation
H332 Harmful if inhaled
H335 May cause respiratory irritation
H373 May cause damage to organs [organs] through prolonged or repeated exposure [route]

9. Cumene

Concentration 0.1 - 0.13 % (weight)
EC no. 202-704-5
CAS no. 98-82-8
Index no. 601-024-00-X

- Flammable liquids, Cat. 3
- Aspiration hazard, Cat. 1
- Specific target organ toxicity (single exposure), Cat. 3
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2

H226 Flammable liquid and vapor
H304 May be fatal if swallowed and enters airways
H335 May cause respiratory irritation
H411 Toxic to aquatic life with long lasting effects

Trade secret statement (OSHA 1910.1200(i))

Any concentration shown as a < % weight is to protect confidentiality or is due to batch variation.
There are no additional ingredients within the current knowledge of the supplier.
Concentrations are classified and although require reporting in this section.

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

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- Inhalation:** Inhalation of vapors or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.
The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapors, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.
- Skin contact:** Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterized by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
- Eye contact:** Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).
- Ingestion:** The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum. Immediately give a glass of water. First aid is not generally required. In doubt, contact a Poisons Information Centre or a doctor.
- Personal protective equipment for first-aid responders**
Obtain exposure TWA time to understand saturation of vapors potentially inhaled.

4.2 Most important symptoms/effects, acute and delayed

Effects: (acute or delayed): inhalation of high concentrations vapors can cause narcotic effect. May cause irritation of eyes and respiratory tract. May cause skin irritation. Following repeated or prolonged contact, it has a degreasing effect on the skin. In high concentrations, can cause depression of the central nervous system. May cause kidney damage.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

No specific treatment. Treat symptomatically. Contact poison control treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Foam.
Dry chemical powder.
BCF (where regulations permit).
Carbon dioxide.
Water spray or fog - Large fires only. Use water spray.

5.2 Specific hazards arising from the chemical

Hexamethylene Diisocyanate Unstable in the presence of incompatible materials. Carbon oxides
Nitrogen oxides (NOx)

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Combustible.

Fire may cause evolution of:

Hydrogen cyanide (hydrocyanic acid), nitrogen oxides

Caution! in contact with water product releases:

carbon dioxide

Risk of explosion.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapors possible in the event of fire.

Product is considered stable.

Hazardous polymerisation will not occur. Avoid high moisture

5.3 Special protective actions for fire-fighters

Alert Fire Brigade and tell them location and nature of hazard.

Wear full body protective clothing with breathing apparatus.

Prevent, by any means available, spillage from entering drains or water course.

Use water delivered as a fine spray to control fire and cool adjacent area.

Avoid spraying water onto liquid pools.

DO NOT approach containers suspected to be hot.

Cool fire exposed containers with water spray from a protected location.

If safe to do so, remove containers from path of fire. Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8.

As an immediate precautionary measure, isolate spill or leak area in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas.

6.2 Environmental precautions

Keep out of drains, sewers, ditches, and waterways.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid all personal contact, including inhalation.

Wear protective clothing when risk of exposure occurs.

Use in a well-ventilated area.

Prevent concentration in hollows and sumps.

DO NOT enter confined spaces until atmosphere has been checked.

Avoid smoking, naked lights or ignition sources.

Avoid contact with incompatible materials.

When handling, DO NOT eat, drink or smoke.

Keep containers securely sealed when not in use.

Avoid physical damage to containers.

Always wash hands with soap and water after handling.

Work clothes should be laundered separately.

Use good occupational work practice.

Observe manufacturer's storage and handling recommendations contained within this SDS.

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Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

DO NOT allow clothing wet with material to stay in contact with skin. Avoid contact with skin, eyes and clothing. Avoid breathing vapors, spray mists or sanding dust. In case of insufficient ventilation, wear suitable respiratory equipment.

7.2 Conditions for safe storage, including any incompatibilities

Keep workplace dry. Do not allow product to come into contact with water. Store below 120°F to avoid building vapor pressure in container. Keep container tightly closed. Keep out of the reach of children.

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Butyl acetate (CAS: 123-86-4 EC: 204-658-1)

PEL (Inhalation): 150 ppm (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 710 mg/m³ (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 150 ppm, (ST) 200 ppm (Cal/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): 150 ppm, (ST) 200 ppm (NIOSH)

OSHA Annotated Table Z-1, www.osha.gov

TLV® (Inhalation): 150 ppm, (ST) 200 ppm; USA (ACGIH)

OSHA Annotated Table Z-1, www.osha.gov

STEL (Inhalation): 200 ppm, 950 mg/m³ (Cal/OSHA)

California permissible exposure limits for chemical contaminants
(Title 8, Article 107)

PEL (Inhalation): 150 ppm, 710 mg/m³

California permissible exposure limits for chemical contaminants
(Title 8, Article 107)

2. HEXAMETHYLENE DIISOCYANATE (CAS: 822-06-0)

REL (Inhalation): .03mg/m³ (OSHA)

OSHA Annotated Table Z-1. www.osha.gov

TWA (Inhalation): .0050 ppm (ACGIH)

BEI® - urine: 15mg/g Creatinine (ACGIH)

3. Toluene (CAS: 108-88-3)

PEL-TWA (Inhalation): 200 ppm (OSHA)

Central nervous system depression, causing fatigue, headache, confusion, paresthesia, dizziness, and muscular incoordination. Irritation of the eyes, mucous membranes, and upper respiratory tract

STEL (Inhalation): 150 ppm (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): 100 ppm (375 mg/m³) (NIOSH)

Fatigue, weakness, confusion, headache, dizziness, drowsiness. Unconsciousness. Irritation of the eyes, respiratory tract, and skin

PEL-C (Inhalation): 300 ppm (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

PEL-Peak (Inhalation): 500 ppm (10 minutes) (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

TWA (Inhalation): 10 ppm (37 mg/m³) (Cal/OSHA)

Female reproductive toxicity, spontaneous abortion. Impaired color vision, impaired hearing, decreased performance in neurobehavioral analysis, changes in motor and sensory nerve conduction velocity, headache, and dizziness

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TLV® (Inhalation): 20 ppm (75 mg/m³) (ACGIH)

Female reproductive system damage and pregnancy loss. Central nervous system impairment and visual impairment

STEL (Inhalation): 150 ppm (560 mg/m³) (NIOSH)

Fatigue, weakness, confusion, headache, dizziness, drowsiness. Unconsciousness. Irritation of the eyes, respiratory tract, and skin

PEL-C (Inhalation): 500 ppm Ceiling (Cal/OSHA)

Female reproductive toxicity, spontaneous abortion. Impaired color vision, impaired hearing, decreased performance in neurobehavioral analysis, changes in motor and sensory nerve conduction velocity, headache, and dizziness

PEL-ST (Inhalation): 150 ppm (560 mg/m³) - SKIN (Cal/OSHA)

Female reproductive toxicity, spontaneous abortion. Impaired color vision, impaired hearing, decreased performance in neurobehavioral analysis, changes in motor and sensory nerve conduction velocity, headache, and dizziness

PEL (Inhalation): See Annotated Z-2 mg/m³ (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): See Annotated Z-2 (Cal/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): See Annotated Z-2 (NIOSH)

OSHA Annotated Table Z-1, www.osha.gov

TLV® (Inhalation): See Annotated Z-2; USA (ACGIH)

OSHA Annotated Table Z-1, www.osha.gov

4. Xylene (CAS: 1330-20-7)

PEL (Inhalation): 100 ppm (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 435 mg/m³ (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 100 ppm, (ST) 150 ppm, (C) 300 ppm (Cal/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): 100 ppm, (ST) 150 ppm (NIOSH)

OSHA Annotated Table Z-1, www.osha.gov

5. Cumene (CAS: 98-82-8)

PEL (Inhalation): 50 ppm (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 245 mg/m³ (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 50 ppm (Cal/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): 50 ppm (NIOSH)

OSHA Annotated Table Z-1, www.osha.gov

TLV® (Inhalation): 50 ppm; USA (ACGIH)

OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Half mask or full face respirators with appropriate cartridge to eliminate inhalation of vapors and/or dust.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

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Safety glasses with side-shields and/or full face respirators.

Skin protection

Protective gloves, such as nitrile gloves.

Body protection

Wear protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Environmental exposure controls

Do not let product enter drains. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.):

Physical state:	Liquid
Odor:	Pungent
Odor threshold:	Not available
pH:	Not available
Melting point/freezing point:	-24°C/-11.2°C
Initial boiling point and boiling range	Not available
Flash point:	158°F/316°F
Evaporation rate:	>1 (ether=1)
Flammability (solid, gas):	High
Upper/lower flammability limits	Upper limit: 9.5% at 25°C Lower limit: 9.0% at 25°C
Upper/lower explosive limits	No data available
Vapor pressure:	.00246 pa at 20°C
Vapor density:	No data available
Relative density:	1.006
Solubility (ies)	Immiscible
Partition coefficient (n-octanol/water):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity (dynamic):	Not available
Explosive properties:	Not available
Oxidizing properties:	Not available

Other safety information

Vol. % Solids: 26.0
Wt. % Volatiles: 73.87
VOC Content (%): 66.62 (5.59 lb/gal)
Regulatory VOC: 5.58 lbs/gal (669.62 gm/L)
Material VOC: 5.58 lbs/gal (669.62 gm/L)

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SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended conditions of storage and handling. Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability

This product is chemically stable under normal conditions of use

10.3 Possibility of hazardous reactions

No dangerous or polymerization reactions will not occur under normal conditions of use.

---Possibility of hazardous reactions:----

can decompose violently in contact with:

Water

Release of:

Carbon dioxide (CO₂)

Risk of explosion with:

Alcohols

with

Bases

Exothermic reaction with:

Alcohols

amides

Amines

Oxidizing agents

Strong acids and strong bases

mercaptans

phenols

10.4 Conditions to avoid

Contact with water and incompatible materials. Sources of ignition. Exposure to heat.

10.5 Incompatible materials

Plastics, Acids nonferrous metals, Copper, Copper alloys, Mild steel, Zinc

Toluene: Rubber, various plastics

XYLENES (MIXED): Plastics, Acids, Bases, Nitrates, Strong oxidizing agents

10.6 Hazardous decomposition products

XYLENES (MIXED): Carbon oxides

Hydrocarbons

Aldehydes

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Components:

Symptoms (including delayed and immediate effects):

Inhalation: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

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Acute toxicity

LD50 Oral - Rat - male - 746 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - 0.124 mg/l - vapor

(OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - > 7,000 mg/kg

(OECD Test Guideline 402)

No data available

Skin corrosion/irritation

Toluene: LD50 Oral-rat-male-5,580 mg/kg

LC50 inhalation-Rat- male and female-4h-25.7 mg/l

LD50 Dermal-Rabbit- > 5,000 mg/kg

XYLENES (MIXED): Acute inhalation toxicity: LC50 (rat, male): 6700ppm, Exposure time: 4h, Assessment: The component/mixture is moderately toxic after short term inhalation

Acute dermal toxicity: LD50 (Rabbit): 1,700 mg/kg Assessment: the component/mixture is moderately toxic after single contact with skin

// ----- From the Suggestion report (11/01/2022, 4:30 PM) ----- //

ATE (inhalation, gaseous) of mixture: 1986.75 ppmv

// ----- From the Suggestion report (11/01/2022, 4:30 PM) ----- //

ATE (inhalation, dust/mist) of mixture: 1.41 mg/l

Skin corrosion/irritation

May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Skin corrosion/irritation

Skin - Rabbit

Result: Corrosive after 1 to 4 hours of exposure - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye damage.

(OECD Test Guideline 405)

Toluene: Rabbit-irritating-4h

XYLENES (MIXED): Species: Rabbit

Exposure time: 24h

Result: Irritating to skin

Serious eye damage/irritation

Eyes - Rabbit

Result: Causes serious eye damage.

(OECD Test Guideline 405)

Toluene: Rabbit-slight irritation

XYLENES (MIXED): Species: Rabbit

Result: Irritating to eyes

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: positive

(OECD Test Guideline 406)

Sensitization test: - Guinea pig

Result: positive

Toluene: Maximization Test-Guinea pig-negative

XYLENES (MIXED): May be fatal if swallowed and enters airways.

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Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

Toluene: Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse Lymphoma test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation

Method: Mutagenicity

Result: negative

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

XYLENES (MIXED): IARC Group 2B: Possibly carcinogenic to humans

100-41-4: Ethylbenzene

98-82-8 Cumene

Reproductive toxicity

No data available

Toluene: Suspected of damaging fertility or the unborn child

Summary of evaluation of the CMR properties

No data available.

STOT-single exposure

Inhalation - May cause respiratory irritation. - Respiratory system

Toluene: May cause damage to organs.

STOT-repeated exposure

No data available

Toluene: May cause damage to organs through prolonged or repeated exposure

Aspiration hazard

No data available

Toluene: May cause pulmonary edema and pneumonitis

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Additional information

Stability in water - 5 - 10 min at 20 °C

Remarks: Hydrolyzes on contact with water.

SECTION 12: Ecological information

Toxicity

Toxicity to algae static test ErC50 - Desmodesmus subspicatus (green algae) - > 77.4 mg/l - 72 h

(OECD Test Guideline 201)

Toxicity to bacteria

---Component: Hexamethylene Diisocyanate---

Endpoint Test Duration (hr) Species Value Source

LC50 96 Fish 22mg/L 1

EC50 72 Algae or other aquatic plants >77.4mg/L 2

NOEC 72 Algae or other aquatic plants 4.9mg/L 2

Toluene: Toxicity to fish : Flow-through test LC50_ Coho Salmon- 5.5mg/l - 96h Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates: EC50- Ceriodaphnia dubia (water flea) - 3.78 mg/l -48 h (US-EPA)

Toxicity to bacteria: Static test EC50-Bacteria- 84 mg/l-24h

XYLENES (MIXED): No data available on product

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 42 % - Not readily biodegradable.

(OECD Test Guideline 301F)

---Water/Soil Persistence, Persistence Air---

hexamethylene diisocyanate polymer--- Water/Soil/Air: HIGH

hexamethylene diisocyanate--- Water/Soil/Air: LOW

Toluene: Biodegradability: aerobic - Exposure time 20d

Result: 86%- Readily biodegradable

Remarks: (IUCLID)

XYLENES (MIXED): No data available on product

Bioaccumulative potential

hexamethylene diisocyanate

polymer LOW (LogKOW = 7.5795)

hexamethylene diisocyanate LOW (LogKOW = 3.1956)

Toluene: Bioaccumulation: Leuciscus idus)Golden orfe)- 3d - 0.05 mg/l(Toluene)

Bioconcentration factor (BCF):90

XYLENES (MIXED): 98-82-8 :

Partition coefficient: log Pow 3.55 (23C)

Mobility in soil

hexamethylene diisocyanate

polymer LOW (KOC = 18560000)

hexamethylene diisocyanate LOW (KOC = 5864)

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Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

XYLENES (MIXED): Ozone-Depletion Potential:
Regulation: 40 CFR Protection of Environment: Part 82 Protection of Stratospheric Ozone- CAA section 602 Class I substances

SECTION 13: Disposal considerations

Disposal of the product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Disposal of contaminated packaging

Refer to section below Waste Treatment.

Waste treatment

Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise: If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorized landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate:

Reduction

Reuse

Recycling

Disposal (if all else fails)

Sewage disposal

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning or process equipment to enter drains.

It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal. Bury residue in an authorized landfill. Recycle containers if possible, or dispose of in an authorized landfill.

Other disposal recommendations

Must remain in a dry environment: Stability in water - 5 - 10 min at 20 °C

Remarks: Hydrolyzes on contact with water.

SECTION 14: Transport information

DOT (US)

UN Number: 1263

Class: 3

Packing Group: II

Proper Shipping Name: Paint Related Material

Reportable quantity (RQ):

Marine pollutant:

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Poison inhalation hazard:

IMDG

UN Number: UN1263

Class: 3

Packing Group: II

EMS Number: F-E, S-E

Proper Shipping Name: Paint Related Material

IATA

UN Number: UN1263

Class: 3

Packing Group: II

Proper Shipping Name: Paint Related Material

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know Components

No components are subject to the New Jersey Right to Know Act.

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian Domestic Substances List (DSL)

Chemical name: Hexane, 1,6-diisocyanato-, homopolymer

CAS: 28182-81-2

Massachusetts Right To Know Components

n-Butyl acetate

CAS number: 123-86-4

New Jersey Right To Know Components

n-Butyl acetate

CAS number: 123-86-4

Pennsylvania Right To Know Components

n-Butyl acetate

CAS number: 123-86-4

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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SARA 311/312 Hazards

Fire Hazard

Canadian Domestic Substances List (DSL)

Chemical name: Acetic acid, butyl ester

CAS: 123-86-4

Massachusetts Right To Know Components

Chemical name: Hexamethylene-1,6-diisocyanate

CAS number: 822-06-0

New Jersey Right To Know Components

Common name: HEXAMETHYLENE DIISOCYANATE

CAS number: 822-06-0

Canadian Domestic Substances List (DSL)

Chemical name: Hexane, 1,6-diisocyanato-

CAS: 822-06-0

Massachusetts Right To Know Components

Chemical name: Toluene

CAS number: 108-88-3

New Jersey Right To Know Components

Chemical name: Toluene

CAS number: 108-88-3

California Prop. 65 Components

State of California to cause birth defects or other reproductive harm.

Toluene

CAS-No. 108-88-3

Pennsylvania Right To Know Components

Chemical name: Toluene

CAS number: 108-88-3

Canadian Domestic Substances List (DSL)

Chemical name: Benzene, methyl-

CAS: 108-88-3

Massachusetts Right To Know Components

Chemical name: Toluene

CAS number: 108-88-3

New Jersey Right To Know Components

Chemical name: Toluene

CAS number: 108-88-3

Pennsylvania Right To Know Components

Chemical name: Toluene

CAS number: 108-88-3

California Prop. 65 Components

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Chemical name: Toluene

CAS number: 108-88-3

SARA 313 Components

Enter applica

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SARA 311/312 Hazards

Enter applica

California Prop. 65 components

Chemical name: Toluene

CAS number: 108-88-3

01/01/1991 - Developmental toxicity

08/07/2009 - Female reproductive toxicity (de-listed 03/07/2014)

01/01/1991 - developmental

08/07/2009 - female

Canadian Domestic Substances List (DSL)

Chemical name: Propanol, 1(or 2)-methoxy-, acetate

CAS: 84540-57-8

Canadian Domestic Substances List (DSL)

Chemical name: Benzenesulfonyl isocyanate, 4-methyl-

CAS: 4083-64-1

Massachusetts Right To Know Components

Chemical name: 1,2,4-Trimethylbenzene

CAS number: 95-63-6

New Jersey Right To Know Components

Common name: PSEUDOCUMENE

CAS number: 95-63-6

Pennsylvania Right To Know Components

Chemical name: Pseudocumene

CAS number: 95-63-6

Canadian Domestic Substances List (DSL)

Chemical name: Benzene, 1,2,4-trimethyl-

CAS: 95-63-6

Canadian Domestic Substances List (DSL)

Chemical name: Benzene, 1,3,5-trimethyl-

CAS: 108-67-8

Massachusetts Right To Know Components

Chemical name: Xylene (mixed isomers)

CAS number: 1330-20-7

New Jersey Right To Know Components

Common name: XYLENES

CAS number: 1330-20-7

Pennsylvania Right To Know Components

Chemical name: Benzene, dimethyl-

CAS number: 1330-20-7

Canadian Domestic Substances List (DSL)

Chemical name: Benzene, dimethyl-

CAS: 1330-20-7

Massachusetts Right To Know Components

Chemical name: Cumene

CAS number: 98-82-8

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New Jersey Right To Know Components

Common name: CUMENE

CAS number: 98-82-8

Pennsylvania Right To Know Components

Chemical name: Benzene, (1-methylethyl)-

CAS number: 98-82-8

Canadian Domestic Substances List (DSL)

Chemical name: Benzene, (1-methylethyl)-

CAS: 98-82-8

New Jersey Right To Know Components

Common name: CUMENE

CAS number: 98-82-8

Massachusetts Right To Know Components

Chemical name: Cumene

CAS number: 98-82-8

Pennsylvania Right To Know Components

Chemical name: Benzene, (1-methylethyl)-

CAS number: 98-82-8

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

Cumene

CAS-No. 98-82-8

California Prop. 65 components

Chemical name: Cumene

CAS number: 98-82-8

04/06/2010 – Cancer

15.2 Chemical Safety Assessment

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

HMIS Rating

Health	2
Flammability	3
Physical hazard	0
Personal protection	G

NFPA Rating

Health hazard	2
Fire hazard	3
Reactivity hazard	0
Special hazard	

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SECTION 16: Other information

16.1 Further information/disclaimer

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer.