

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

- Trade name HEXYLENE GLYCOL

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance / Mixture**

- Industrial use
- Coating agents
- Solvent
- Chemical intermediate
- Cosmetics, personal care products
- Perfumes, fragrances
- Emulsifier

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

Solvay USA Inc.,
COATIS
8 Cedar Brook Drive
Cranbury, NJ, 08512-7500, US
Telephone number: 855-454-9921

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture**HCS 2012 (29 CFR 1910.1200)**

Flammable liquids, Category 4
Skin irritation, Category 2
Eye irritation, Category 2A

H227: Combustible liquid.
H315: Causes skin irritation.
H319: Causes serious eye irritation.

2.2 Label elements**HCS 2012 (29 CFR 1910.1200)****Pictogram****Signal Word**

- Warning

Hazard Statements

- H227 Combustible liquid.

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- H315 Causes skin irritation.
- H319 Causes serious eye irritation.

Precautionary StatementsPrevention

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P264 Wash skin thoroughly after handling.
- P280 Wear protective gloves/ eye protection/ face protection.

Response

- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage

- P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal

- P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

None identified

SECTION 3: Composition/information on ingredients**3.1 Substance****Hazardous Ingredients and Impurities**

Chemical Name	Identification number CAS-No.	Concentration [%]
Hexylene Glycol	107-41-5	>= 99

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

3.2 Mixture

Not applicable, this product is a substance.

SECTION 4: First aid measures**4.1 Description of first-aid measures****General advice**

- Show this material safety data sheet to the doctor in attendance.
- First responder needs to protect himself.
- Place affected apparel in a sealed bag for subsequent decontamination.

In case of inhalation

- Move to fresh air in case of accidental inhalation of vapors or decomposition products.
- Keep at rest.
- Get immediate medical advice/ attention.

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In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash immediately and thoroughly for a prolonged period (at least 15 minutes).
- Consult a physician if necessary.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If eye irritation persists, consult a physician.

In case of ingestion

- Do NOT induce vomiting.
- Rinse mouth with water.
- Obtain medical attention.

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

- Skin contact may aggravate existing skin disease
- Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis

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

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
- Treat symptomatically.
- There is no specific antidote available.

SECTION 5: Firefighting measures

Flash point 199 °F (93 °C)
open cup

Autoignition temperature 583 °F (306 °C)

Flammability / Explosive limit Lower flammability/explosion limit : 1.30 %(V)
Upper flammability/explosion limit : 9.00 %(V)

5.1 Extinguishing media**Suitable extinguishing media**

- Water mist
- Dry powder
- Foam
- Carbon dioxide (CO₂)

Unsuitable extinguishing media

- High volume water jet
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

- Combustible material
- Cool closed containers exposed to fire with water spray.

- Container may rupture on heating.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

Specific fire fighting methods

- Use appropriate means for fighting adjacent fires.

Further information

- Cool containers/tanks with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Mark the contaminated area with signs and prevent access to unauthorized personnel.
- Avoid contact with the skin and the eyes.
- Keep away from flames and sparks.
- Do not breathe vapor.
- Use personal protective equipment.
- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2 Environmental precautions

- Dam up.
- Prevent product from entering sewage system.
- Try to prevent the material from entering drains or water courses.
- Local authorities should be advised if significant spillages cannot be contained.
- Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies

6.3 Methods and materials for containment and cleaning up

Recovery

- Pump up the product into a suitably labeled spare container.
- Recover as much of the product as possible.
- Soak up with inert absorbent material.
- Sweep up and shovel into suitable containers for disposal.
- Keep in suitable, closed containers for disposal.

Decontamination / cleaning

- Wash off with plenty of water.
- Recover the cleaning water for subsequent disposal.

Disposal

- Treat recovered material as described in the section "Disposal considerations".

6.4 Reference to other sections

- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Ground the equipment.
- Ground/bond container and receiving equipment.
- No smoking.
- Take measures to prevent the build up of electrostatic charge.
- Provide adequate ventilation.
- Provide sufficient air exchange and/or exhaust in work rooms.
- Electrical installations / working materials must comply with the technological safety standards.

- Handle in accordance with good industrial hygiene and safety practice.
- Provide adequate ventilation.
- Wear personal protective equipment.
- Avoid inhalation, ingestion and contact with skin and eyes.

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
 - 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
 - 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
 - 3) Wash exposed skin promptly to remove accidental splashes or contact with material.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Use clean, well maintained personal protection equipment.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- The floor of the depot should be impermeable and designed to form a watertight basin.
- To prevent leaks or spillages from spreading, provide a suitable liquid retention system.
- Electrical installations / working materials must comply with the technological safety standards.

- Keep in a dry, cool and well-ventilated place.
- Keep away from heat and sources of ignition.
- Keep away from incompatible materials to be indicated by the manufacturer
- Store contents under inert gas.
- Keep under nitrogen.

- Keep away from incompatible materials to be indicated by the manufacturer

Packaging material

Suitable material

- Aluminum
- Stainless steel
- Carbon steel

Unsuitable material

- Plastic materials.

7.3 Specific end use(s)

- no data available

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SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters**Components with workplace occupational exposure limits**

Ingredients	Value type	Value	Basis
Hexylene Glycol	C	25 ppm 125 mg/m3	National Institute for Occupational Safety and Health
Hexylene Glycol	C	25 ppm	American Conference of Governmental Industrial Hygienists

8.2 Exposure controls**Control measures****Engineering measures**

- Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures :
- Provide adequate ventilation.

Individual protection measures**Respiratory protection**

- When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.
- Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate local standard(s):
- If the occupational exposure limit is exceeded:
- Full face-mask
- Recommended Filter type:
- ABEK-filter
- Wear self-contained breathing apparatus in confined spaces, in cases where the oxygen level is depleted, or in case of significant emissions.

Hand protection

- Where there is a risk of contact with hands, use appropriate gloves
- Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- Gloves must be inspected prior to use.
- Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Suitable material

- Nitrile rubber

Eye protection

- Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.
- Eye contact should be prevented through the use of:

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- Tightly fitting safety goggles

Skin and body protection

- Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Remove and wash contaminated apparel.
- Wear as appropriate:
 - Solvent-resistant apron and boots
 - Footwear protecting against chemicals
 - Contaminated work clothing should not be allowed out of the workplace.

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
 - 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
 - 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
 - 3) Wash exposed skin promptly to remove accidental splashes or contact with material.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Use clean, well maintained personal protection equipment.

Protective measures

- Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards, and/or risks that may occur during use.
- The protective equipment must be selected in accordance with current local standards and in cooperation with the supplier of the protective equipment.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	Form: transparent
	<u>Physical state:</u> liquid (68 °F (20 °C)) (759.81 mmHg (1,013 hPa))
	<u>Color:</u> colorless
<u>Odor</u>	sweet
<u>Odor Threshold</u>	no data available
<u>pH</u>	6.9 - 7.0 (10 % (m/v)) Not applicable
<u>Melting point/range</u>	-58 °F (-50 °C) (759.81 mmHg (1,013 hPa))
<u>Boiling point/boiling range</u>	387 °F (197 °C) (759.81 mmHg (1,013 hPa))
<u>Flash point</u>	199 °F (93 °C) open cup

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<u>Evaporation rate (Butylacetate = 1)</u>	1
<u>Flammability (solid, gas)</u>	Not applicable
<u>Flammability / Explosive limit</u>	<u>Lower flammability/explosion limit:</u> 1.30 %(V) <u>Upper flammability/explosion limit:</u> 9.00 %(V)
<u>Autoignition temperature</u>	583 °F (306 °C) (759.81 mmHg (1,013 hPa))
<u>Vapor pressure</u>	0.05 mmHg (0.067 hPa) (68 °F (20 °C))
<u>Vapor density</u>	4.1
<u>Density</u>	0.9201 - 0.924 g/cm3 (68 °F (20 °C))
	<u>Relative density:</u> 0.923 (68 °F (20 °C))
<u>Solubility</u>	<u>Water solubility :</u> completely miscible <u>Solubility in other solvents:</u> miscible with most organic solvents
<u>Partition coefficient: n-octanol/water</u>	log Pow: < 1
<u>Thermal decomposition</u>	no data available
<u>Viscosity</u>	<u>Viscosity, dynamic :</u> 34 mPa.s (68 °F (20 °C))
<u>Explosive properties</u>	Not explosive Structure-activity relationship (SAR)
<u>Oxidizing properties</u>	The substance or mixture is not classified as oxidizing. Structure-activity relationship (SAR)

9.2 Other information

Molecular weight 118.06 g/mol

SECTION 10: Stability and reactivity**10.1 Reactivity**

- Not classified as a reactivity hazard.

10.2 Chemical stability

- Stable at room temperature.

10.3 Possibility of hazardous reactions

- Hazardous polymerization does not occur.

10.4 Conditions to avoid

- Heat, flames and sparks.
- Exposure to moisture.
- Prevent the build-up of electrostatic charge.
- Direct sources of heat.

10.5 Incompatible materials

- Strong oxidizing agents
- Strong reducing agents
- Acid chlorides and anhydrides.
- Strong acids

10.6 Hazardous decomposition products

- On combustion or on thermal decomposition (pyrolysis), releases:
- (Carbon oxides (CO + CO₂)).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

LD₀ : 2,000 mg/kg - Rat , male and female
Method: Fixed Dose Method

Acute inhalation toxicity

Hexylene Glycol

LC₅₀ - 8 h (vapor) : > 66 ppm - Rat , male and female
Method: OECD Test Guideline 403
Not classified as hazardous for acute inhalation toxicity according to GHS.
No mortality observed at this concentration.
Saturated vapor concentration
Published data

Acute dermal toxicity

LD₀ 2,000 mg/kg - Rabbit , male
Method: OECD Test Guideline 402

Acute toxicity (other routes of administration)

Hexylene Glycol

no data available

Skin corrosion/irritation

Rabbit
Not classified as irritating to skin
Method: OECD Test Guideline 404
Unpublished reports

Serious eye damage/eye irritation

Irritating to eyes.
largely based on human evidence
Published data

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Respiratory or skin sensitization

Maximization Test (GPMT) - Guinea pig
Does not cause skin sensitization.
Method: OECD Test Guideline 406

Mutagenicity**Genotoxicity in vitro**

Ames test
with and without metabolic activation
negative
Method: OECD Test Guideline 471
Product is not considered to be genotoxic

Chromosome aberration test in vitro
Strain: CHO
negative
Product is not considered to be genotoxic

Genotoxicity in vivo

Hexylene Glycol

no data available

Carcinogenicity

Not classifiable as a human carcinogen.

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP
IARC
OSHA
ACGIH

Toxicity for reproduction and development**Toxicity to reproduction / fertility**

Reproduction / developmental toxicity screening test - Rat , for males and females
Oral exposure
NOAEL parent: 1,000 mg/kg
NOAEL F1: 500 mg/kg
Method: OECD Test Guideline 421

Developmental Toxicity/Teratogenicity

Rat
Oral exposure
NOAEL teratogenicity: 1,000 mg/kg
NOAEL maternal: 300 mg/kg

STOT**STOT-single exposure**

The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Oral 90 Days - Rat , for males and females
NOAEL: 450 mg/kg
Method: OECD Test Guideline 407

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Experience with human exposure

Experience with human exposure : May cause respiratory irritation.
Inhalation

Experience with human exposure : Symptoms: Gastrointestinal discomfort
Ingestion Vomiting
 Diarrhea

Aspiration toxicity

Hexylene Glycol no data available

SECTION 12: Ecological information**12.1 Toxicity****Aquatic Compartment**

Acute toxicity to fish

LC50 - 96 h : 8,690 mg/l - Pimephales promelas (fathead minnow)
 flow-through test
 Method: OECD Test Guideline 203

LC50 - 96 h : 12,800 mg/l - Lepomis macrochirus (Bluegill sunfish)
 flow-through test
 Method: OECD Test Guideline 203

LC50 - 96 h : 9,450 mg/l - Oncorhynchus mykiss (rainbow trout)
 flow-through test
 Method: OECD Test Guideline 203

Acute toxicity to daphnia and other aquatic invertebrates.

EC50 - 48 h : 5,410 mg/l - Daphnia magna (Water flea)
 static test
 Method: OECD Test Guideline 202

Toxicity to aquatic plants

EC50 - 72 h : > 420 mg/l - Pseudokirchneriella subcapitata (green algae)
 Method: OECD Test Guideline 201

NOEC - 72 h : 429 mg/l - Pseudokirchneriella subcapitata (green algae)
 Method: OECD Test Guideline 201

Toxicity to microorganisms
 Hexylene Glycol

NOEC - 10 Days : 200 mg/l - Pseudomonas putida
 static test
 Published data

12.2 Persistence and degradability**Biodegradation**

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Biodegradability

Ultimate aerobic biodegradability
Method: OECD Test Guideline 301
81 % - 28 d
Readily biodegradable.

Ultimate aerobic biodegradability
Method: OECD Test Guideline 301
63 % - 20 d
Readily biodegradable.
Sea water

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water Not potentially bioaccumulable

Bioconcentration factor (BCF) Bioconcentration factor (BCF): 3.16
Structure-activity relationship (SAR)

12.4 Mobility in soil

Known distribution to environmental compartments Ultimate destination of the product: Water

12.5 Results of PBT and vPvB assessment

Hexylene Glycol

This substance is not considered to be persistent, bioaccumulating, and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

no data available

Ecotoxicity assessment

Acute aquatic toxicity The product does not have any known adverse effects on the aquatic organisms tested

Chronic aquatic toxicity Does not have any known long term adverse effects on the aquatic organisms tested

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product Disposal**

- Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.
- Send to a licensed waste management company.

Prohibition

- The product should not be allowed to enter drains, water courses or the soil.

Waste Code

- RCRA Hazardous Waste (40 CFR 302)
- Hazardous Waste – NO

Advice on cleaning and disposal of packaging

- Dispose of in accordance with local regulations.

Prohibition

- Do not dispose of with domestic refuse.

SECTION 14: Transport information**DOT**

not regulated

TDG

not regulated

NOM

no data available

IMDG

not regulated

IATA

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

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SECTION 15: Regulatory information**15.1 Notification status**

Inventory Information	Status
United States TSCA Inventory	- On TSCA Inventory
Canadian Domestic Substances List (DSL)	- All components of this product are on the Canadian DSL.
Australia Inventory of Chemical Substances (AICS)	- On the inventory, or in compliance with the inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- On the inventory, or in compliance with the inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- On the inventory, or in compliance with the inventory

15.2 Federal Regulations**US. EPA EPCRA SARA Title III****SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)**

Fire Hazard	no
Reactivity Hazard	no
Sudden Release of Pressure Hazard	no
Acute Health Hazard	yes
Chronic Health Hazard	no

Section 313 Toxic Chemicals (40 CFR 372.65)

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.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)

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

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

This material does not contain any components with a section 304 EHS RQ.

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Ingredients	CAS-No.	Reportable quantity
Acetone	67-64-1	5000 lb
Methyl Isobutyl Ketone	108-10-1	5000 lb

15.3 State Regulations**US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)**

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

PRCO90032214

Version : 1.00 / US (Z8)

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Ingredients	CAS-No.
Methyl Isobutyl Ketone	108-10-1

SECTION 16: Other information**NFPA (National Fire Protection Association) - Classification**

Health	2 moderate
Flammability	1 slight
Instability or Reactivity	0 minimal

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

Health	2 moderate
Flammability	1 slight
Reactivity	0 minimal
PPE	Determined by User; dependent on local conditions

Further information

- Product evaluated under the US GHS format.

Date Prepared: 04/07/2015

Key or legend to abbreviations and acronyms used in the safety data sheet

- C Ceiling limit
- ACGIH American Conference of Governmental Industrial Hygienists
- OSHA Occupational Safety and Health Administration
- NTP National Toxicology Program
- IARC International Agency for Research on Cancer
- NIOSH National Institute for Occupational Safety and Health

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.