

JEFFSOL® PROPYLENE CARBONATE (JEFFSOL® PC)

Version	Revision Date:	SDS Number:	Date of last issue: 02/15/2016
1.2	04/06/2016	400001001167	Date of first issue: 12/15/2015

SECTION 1. IDENTIFICATION

Product name : JEFFSOL® PROPYLENE CARBONATE (JEFFSOL® PC)

Manufacturer or supplier's details

Company name of supplier : Huntsman International LLC
Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America
Telephone : TechInfo: (281) 719-7780

E-mail address of person responsible for the SDS : MSDS@huntsman.com

Emergency telephone : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Solvent

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Eye irritation : Category 2A

GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Substance / Mixture : Substance

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
propylene carbonate	108-32-7	95 - 100

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : No data is available on the product itself.
- Hazardous combustion products : No hazardous combustion products are known
- Specific extinguishing methods : No data is available on the product itself.

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Further information : Standard procedure for chemical fires.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapors/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Keep away from oxidizing agents.
Keep away from strong acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe

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working limits of the selected respirator.

Hand protection
Remarks

: Impervious gloves
The suitability for a specific workplace should be discussed with the producers of the protective 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.

Eye protection

: Eye wash bottle with pure water
Tightly fitting safety goggles.
Wear face-shield and protective suit for abnormal processing problems.
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection

: impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

: When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: colorless
Odor	: slight
Odor Threshold	: No data is available on the product itself.
pH	: 7
Melting point	: -49 °C
Freezing point	: -49 °C
Boiling point	: 242 °C (1,013 hPa) No information available.
Flash point	: 135 °C Method: Pensky-Martens closed cup
Evaporation rate	: < 0.005
Flammability (solid, gas)	: No data is available on the product itself.
Upper explosion limit	: 21 %(V)

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Lower explosion limit	: 4.7 %(V)
Vapor pressure	: 0.030659 hPa (20 °C)
Relative vapor density	: 3.5
Relative density	: 1.2
Density	: 1.2 g/cm ³ (25 °C)
Solubility(ies)	
Water solubility	: 200 g/l (25 °C)
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: log Pow: -0.5 (20 °C)
Autoignition temperature	: 430 °C
Thermal decomposition	: No data is available on the product itself.
Viscosity	
Viscosity, dynamic	: 2.5 mPa.s (25 °C)
Viscosity, kinematic	: 1.6 mm ² /s (43.33 °C)
Oxidizing properties	: None.
Self-Accelerating decomposition temperature (SADT)	: No data is available on the product itself.
Molecular weight	: Calculation method 102.09 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed.
Conditions to avoid	: Heat.
Incompatible materials	: Incompatible with oxidizing agents.
Hazardous decomposition products	: Carbon monoxide Carbon dioxide (CO ₂) Aldehydes Ketones Acids

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SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product : LD50 (Rat, male and female): 33,520 mg/kg

Acute inhalation toxicity : No data available

Acute dermal toxicity - Product : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation**Product:**

Remarks: The working solutions are not irritating to skin.

Serious eye damage/eye irritation**Product:**

Remarks: Eye irritation

Respiratory or skin sensitization**Ingredients:**

propylene carbonate:

Routes of exposure: Skin

Species: Humans

Result: Does not cause skin sensitization.

Assessment: No data available

Germ cell mutagenicity**Product:**

Genotoxicity in vitro : Concentration: 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Metabolic activation: negative
Method: OECD Test Guideline 482
Result: negative

Product:

Genotoxicity in vivo : Application Route: Intraperitoneal injection
Dose: 1666 mg/kg
Method: OECD Test Guideline 474

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Result: negative

Carcinogenicity**Product:**

Species: Mouse, (male)
Application Route: Dermal
Exposure time: 104 weeks
Dose: 1500 - 2000 mg/kg
Frequency of Treatment: 2 daily
Method: OECD Test Guideline 451
Result: negative

Carcinogenicity -
Assessment : No data available

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.

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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.

Reproductive toxicity**Product:**

Effects on fertility : Species: Rat
Application Route: Oral
Method: OECD Test Guideline 414

Product:

Effects on fetal development : Species: Rat, male and female
Application Route: Oral
General Toxicity Maternal: NOAEL (No observed adverse effect level): 1,000 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects.

Reproductive toxicity -
Assessment : No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

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Repeated dose toxicity**Product:**

Species: Rat, male and female
NOEC: > 5000 mg/kg, 100 mg/m³
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 2,232 h
Number of exposures: 6 h
Method: OECD Test Guideline 413

Repeated dose toxicity - : No data available
Assessment

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity**

Toxicity to fish - Product : LC₅₀ (Cyprinus carpio (Carp)): > 1,000 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.1.

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Remarks: No-observed-effect level

Toxicity to daphnia and other aquatic invertebrates - Product : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
 Exposure time: 48 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 202
 Remarks: No-observed-effect level

Toxicity to algae - Product : ErC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): > 900 mg/l
 Exposure time: 72 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 201

EbC50 (Selenastrum capricornutum (green algae)): > 929 mg/l
 Exposure time: 72 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : No data available

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to bacteria - Product : EC50 (Pseudomonas putida): 25,619 mg/l
 Exposure time: 16 h
 Test Type: static test
 Test substance: Fresh water
 Method: DIN 38 412 Part 8

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

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Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:
No data available

Persistence and degradability

Biodegradability - Product : Concentration: 20 mg/l
Result: Readily biodegradable.
Biodegradation: 83.5 %
Exposure time: 29 d
Method: OECD Test Guideline 301B

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Bioaccumulation - Product : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water - Product : log Pow: -0.5 (20 °C)

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

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Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information - Product : No data available

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulation****IATA**

Not regulated as dangerous goods

IMDG

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Not regulated as dangerous goods

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

DOT Classification

Not regulated as dangerous goods

SECTION 15. REGULATORY INFORMATION

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
PROPYLENE OXIDE (PO)	75-56-9	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Acute Health Hazard

SARA 313 : 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.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

California Prop 65

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

methyloxirane

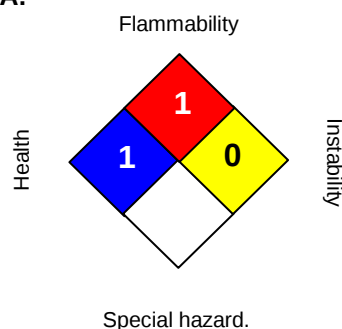
75-56-9

The ingredients of this product are reported in the following inventories:

CH INV	: The mixture contains substances listed on the Swiss Inventory
TSCA	: On TSCA Inventory
DSL	: All components of this product are on the Canadian DSL.
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory

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SECTION 16. OTHER INFORMATION**Further information****NFPA:****HMIS III:**

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

Revision Date : 04/06/2016

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SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.