

PETITION TO INCLUDE PROPYLENE CARBONATE ONTO 7 CFR § 205.601

Petitioner:

Huntsman Corporation
8600 Gosling Road
The Woodlands, TX 77381

ALL COMMUNICATIONS CONCERNING THIS PETITION SHOULD BE DIRECTED TO:

CURTIS ELSIK
HUNTSMAN CORP.
8600 Gosling Rd.
The Woodlands, TX 77381
1(281)719-7491
curtis_elsik@huntsman.com



Enriching lives through innovation

January 31, 2014

National List Manager
USDA/AMS/NOP, Standards Division
1400 Independence Ave. SW
Room 2648-So., Ag Stop 0268
Washington, DC 20250-0268

Dear Sir/Madam:

Huntsman Corporation is submitting this petition to list propylene carbonate on the National List of Allowed Substances that may be used in organic crop and livestock production, at 7 CFR § 205.601(m).

JEFFSOL[®] AG 1555 propylene carbonate solvent, also known as 1,3-Dioxolan-2-one, 4-methyl CASRN 108-32-7, was added to List 4a minimal risk inert ingredients on September 5, 2003 at the same time it was approved for use on the newly established 40 CFR 180.950: Tolerance exemptions for minimal risk active and inert ingredients. (Federal Register Vol. 68, No. 172, pg. 52695-52700). Since it was added by the EPA to List 4a almost a year before the NOP officially recognized August, 2004 List 4, it should already be considered allowed for use in Organic products. However, for some reason, the EPA did not include it on the list published in August 2004. So we now are requesting listing on 7 CFR § 205.601(m) based on its 40CFR 180.950 minimal risk approval.

Please call me at 1(281)719-7491 if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Curtis M. Elsik". The signature is written in a cursive style with a long, sweeping underline.

Curtis M. Elsik, Ph.D.
Global Agrochemicals Regulatory Manager
curtis_elsik@huntsman.com

**NOP Petition to add Propylene Carbonate (CASRN 108-32-7) to the National List of
Allowed Substances on 7 CFR § 205.601(m)**

ITEM A:

This Petition is to have Propylene Carbonate included on the National List under the following category: **1. Synthetic substances allowed for use in organic crop production.**

ITEM B:

1. The substance's common name.

Propylene Carbonate

2. The manufacturer's name, address, and telephone number.

Huntsman Corporation

8600 Gosling Rd.

The Woodlands, TX 77381

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3. The intended or current use of the substance such as use as a pesticide, animal feed additive, processing aid, nonagricultural ingredient, sanitizer, or disinfectant.

Inert ingredient solvent in organic pesticide formulations.

4. A list of the crop, livestock, or handling activities for which the substance will be used. If used for crops or livestock, the substance's rate and method of application must be described. If used for handling (including processing), the substance's mode of action must be described.

Substance will be used to solubilize ingredients in organic pesticide formulations. Rates will depend on solubility of ingredient. Formulation may be diluted in water before spraying as an emulsion or microemulsion.

5. The source of the substance and a detailed description of its manufacturing or processing procedures from the basic component(s) to the final product. Petitioners with concerns for confidential business information can follow the guidelines in the Instructions for Submitting Confidential Business Information (CBI) listed in #13.

Propylene Carbonate is formed in a simple single reaction:

Propylene Oxide + Carbon Dioxide → Propylene Carbonate

The catalyst is CBI, but the process is summarized in "Ethylene and Propylene Carbonate," Encyclopedia of Chemical Processing and Design, John McKetta and William Cunningham, Eds., Vol. 20, pg 177-198, 1984. Process Schematic shown in Appendix 6.

Biodegradation is by hydrolysis:

Propylene Carbonate + Water → Propylene Glycol + Carbon Dioxide

Propylene Carbonate is Readily Biodegradable: See MSDS in Appendix 1

6. A summary of any available previous reviews by State or private certification programs or other organizations of the petitioned substance.

JEFFSOL[®] AG 1555 propylene carbonate solvent, also known as 1,3-Dioxolan-2-one, 4-methyl CASRN 108-32-7, was added to List 4a minimal risk inert ingredients on September 5, 2003 at the same time it was approved for use on the newly established 40 CFR 180.950: Tolerance exemptions for minimal risk active and inert ingredients. (Federal Register Vol. 68, No. 172, pg. 52695-52700 is included in Appendix).

U.S. EPA ruled Propylene Carbonate VOC Exempt on 40 CFR Part 51. (FR 74, 12, 3437, Wednesday January 21, 2009)

California ruled Propylene Carbonate VOC Exempt on Rule 102, Amended September 11, 2009.

7. Information regarding EPA, FDA, and State regulatory authority registrations, including registration numbers.

JEFFSOL[®] AG 1555 propylene carbonate solvent, also known as 1,3-Dioxolan-2-one, 4-methyl CASRN 108-32-7, was added to List 4a minimal risk inert ingredients on September 5, 2003 at the same time it was approved for use on 40 CFR 180.950 Tolerance exemptions for minimal risk active and inert ingredients. (Federal Register Vol. 68, No. 172, pg. 52695-52700 is included in Appendix).

U.S. EPA ruled Propylene Carbonate VOC Exempt on 40 CFR Part 51. (FR 74, 12, 3437, Wednesday January 21, 2009)

California ruled Propylene Carbonate VOC Exempt on Rule 102, Amended September 11, 2009.

8. The Chemical Abstract Service (CAS) number or other product numbers of the substance and labels of products that contains the petitioned substance.

CASRN: 108-32-7

EC No. 203-572-1, EINECS No. 203-572-1, ENCS No. 5-524, ECL Serial No. KE-23785, SWISS No. G-6895

INVENTORY NAME(S):

1,3-Dioxolan-2-one, 4-methyl- (TSCA, DSL, AICS, SWISS, PICCS, ASIA-PAC, NZIoC) propylene carbonate (REACH, EINECS, PICCS)

2-Oxo-4-methyl-1, 3-dioxolan (ENCS)

4-Methyl-1,3-dioxolan-2-one (ECL)

1,2-PROPYLEN-CARBONAT (German) (SWISS)

1,3-DIOXOLANE-2-ONE, 4-METHYL- (PICCS)

OTHER NAME(S):

1,2-Propanediol carbonate; 1,2-Propanediol cyclic carbonate; 1,2-Propanediyl carbonate;

1,2-Propylene carbonate; 1-Methylethylene carbonate; 2-Methyl-1,2-ethylene carbonate;

2-Oxo-4-methyl-1,3-dioxolane; 4-Methyl-1,3-dioxolane-2-one;

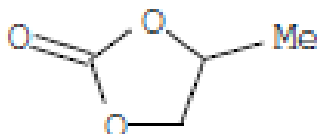
4-Methyl-2-oxo-1,3-dioxolane; Carbonic acid cyclic 1,2-propylene ester;

Carbonic acid cyclic methylethylene ester; Carbonic acid, cyclic propylene ester;
Carbonic acid, propylene ester; Cyclic 1,2-propylene carbonate;
Cyclic methylethylene carbonate; Cyclic propylene carbonate;
Propylene glycol cyclic carbonate

REACH CLASSIFICATION: REACH: List of Registered Substances.

Inventory Update Rule (IUR):

This chemical was reported under the TSCA Inventory Update Rule for the 2006 reporting



9. The substance's physical properties and chemical mode of action including (a) chemical interactions with other substances, especially substances used in organic production; (b) toxicity and environmental persistence; (c) environmental impacts from its use or manufacture; (d) effects on human health; and, (e) effects on soil organisms, crops, or livestock.

Full information given in attached MSDS for JEFFSOL[®] AG 1555 propylene carbonate.

Appearance

Physical state	: Liquid.
Color	: Colorless.
Odor	: Faint odor.
pH	: 7
Boiling/condensation point	: 242°C (467.6°F)
Melting/freezing point	: -49°C (-56.2°F)
Flash point	: Closed cup: 135°C (275°F) [ASTM D 93 (Pensky-Martens Closed Cup)]
Flammable limits	: Not available.
Auto-ignition temperature	: 430°C (806°F)
Oxidizing properties	: None.
Vapor pressure	: 0.0031 kPa [20°C]
Specific gravity	: 1.2
Water solubility	: 200 g/l
Water solubility	: Soluble
Partition coefficient: n-octanol/water (log Kow)	: -0.5
Viscosity	: Dynamic (room temperature): 2.5 mPa·s (2.5 cP) Kinematic (room temperature): 0.016 cm ² /s (1.6 cSt)
Density	: 1.2 g/cm ³ [25°C (77°F)]
Vapor density	: 3.5 [Air = 1]
Evaporation rate (butyl acetate = 1)	: <0.005 (butyl acetate = 1)

10 . Stability and reactivity

Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Test	Endpoint	Species	Result
Propylene carbonate	OECD 402 Acute Dermal Toxicity No official guidelines	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg
		LD50 Oral	Rat - Male, Female	33520 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Propylene carbonate	EPA OPPTS OECD 404 Acute Dermal Irritation/ Corrosion	Rabbit Rabbit	Eyes - Moderate irritant Skin - Non-irritant.

Sensitizer

Product/ingredient name	Test	Route of exposure	Species	Result
Propylene carbonate	No official guidelines	skin	Human	Not sensitizing

Mutagenicity

Product/ingredient name	Test	Result
Propylene carbonate	Experiment: In vitro Subject: Mammalian-Animal	Negative
	Experiment: In vitro Subject: bacteria/yeast	Negative
	Metabolic activation: +/- Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/ Summary : Propylene carbonate Not mutagenic in a standard battery of genetic toxicological tests.

Carcinogenicity

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result type
Propylene carbonate	OECD 451 Carcinogenicity Studies	Mouse - Male	1500 to 2000 mg/kg	104 weeks; 2 days per week	Negative - Dermal - NOAEL

Reproductive toxicity

Product/ingredient name	Test	Species	Maternal toxicity	Fertility	Developmental effects
Propylene carbonate	OECD 414 Prenatal Developmental Toxicity Study	Rat	Negative	Negative	Negative

Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Propylene carbonate	OECD 414 Prenatal Developmental Toxicity Study	Rat - Male, Female	Negative - Oral

Potential acute health effects

- Inhalation** : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Eye contact : Irritating to eyes.

Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Result
Propylene carbonate	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Sub-chronic NOEL Oral	Rat - Male, Female	>5000 mg/kg
	OECD 413 Subchronic Inhalation Toxicity: 90-day Study	Sub-chronic NOEC Inhalation Dusts and mists	Rat - Male, Female	100 mg/m ³

11 . Toxicological information

- General** : No known significant effects or critical hazards.
- Target organs** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Medical conditions aggravated by over-exposure**
None known.

12 . Ecological information

Environmental effects : Readily biodegradable This product shows a low bioaccumulation potential.

Aquatic ecotoxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result	
Propylene carbonate	DIN DIN 38412 Part 8	Acute	EC50	16 hours Static	Bacteria	25619 mg/l
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute	EC50	48 hours Static	Daphnia	>1000 mg/l
	OECD 201 Alga, Growth Inhibition Test	Acute	EbC50 (biomass)	72 hours Static	Algae	>929 mg/l
	OECD 201 Alga, Growth Inhibition Test	Acute	ErC50 (growth rate)	72 hours Static	Algae	>900 mg/l
	EU EC C.1 Acute Toxicity for Fish	Acute	LC50	96 hours Semi- static	Fish	>1000 mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	NOEC	72 hours Static	Algae	900 mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	NOEC	72 hours Static	Algae	929 mg/l

Persistence and degradability

Product/ingredient name	Test	Period	Result
Propylene carbonate	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	29 days	83.5 to 87.7 %
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Propylene carbonate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Propylene carbonate	-0.5	-	low

10. Safety information about the substance including a Material Safety Data Sheet (MSDS) and a substance report from the National Institute of Environmental Health Studies.
MSDS is included in Appendix 1. NIEHS report not available.

The U.S. EPA OPP IIAB inert ingredient evaluation of the health and environmental data concluded propylene carbonate is of lower toxicity and merited approval on the newly developed 40 CFR 180.950 minimal risk classification and added propylene carbonate to List 4a on September 5, 2003.

11. Research information about the substance which includes comprehensive substance research reviews and research bibliographies, including reviews and bibliographies which present contrasting positions to those presented by the petitioner in supporting the substance's inclusion on or removal from the National List.

Supporting Documents:

Appendix 2: Federal Register Vol. 68, No. 172, pg. 52695-52700: Tolerance Exemption

Appendix 3: EPA OPP Propylene Carbonate InertFinder with Huntsman Data Rights

Appendix 4: U.S. EPA Propylene Carbonate VOC Exemption FR Notice

Appendix 5: California Propylene Carbonate VOC Exemption Rule 102

Contrasting Documents: None known.

12. A "Petition Justification Statement" which provides justification for inclusion of a Synthetic on the National List, §§ 205.601.

- Explain why the synthetic substance is necessary for the production or handling of an organic product. **There are limited solvents currently on the National List. Solvents are required to successfully formulate ingredients that are insoluble.**
- Describe any non-synthetic substances, synthetic substances on the National List or alternative cultural methods that could be used in place of the petitioned synthetic substance. **There are no substances on the National List that could be used in place of propylene carbonate.**
- Describe the beneficial effects to the environment, human health, or farm ecosystem from use of the synthetic substance that support its use instead of the use of a non-synthetic substance or alternative cultural methods.

JEFFSOL® AG 1555 propylene carbonate solvent, also known as 1,3-Dioxolan-2-one, 4-methyl CASRN 108-32-7, was added to List 4a minimal risk inert ingredients on September 5, 2003 at the same time it was approved for use on the newly established 40 CFR 180.950: Tolerance exemptions for minimal risk active and inert ingredients. (Federal Register Vol. 68, No. 172, pg. 52695-52700, provided in Appendix 2). Since it was added by the EPA to List 4a almost a year before the NOP officially recognized August, 2004 List 4, it should already be considered allowed for use in Organic products. However, the EPA did not include it on the list published in August 2004. So we now are requesting listing on 7 CFR § 205.601(m) based on its 40 CFR 180.950 minimal risk approval.

Propylene carbonate is produced using propylene oxide and carbon dioxide, and readily biodegrades back into carbon dioxide plus propylene glycol. Propylene carbonate is a minimal risk inert. It has low toxicity, low ecotox, low odor, high solvency, high boiling point, high flash point, low evaporation rate, and low vapor pressure. It is VOC-exempt in the U.S. including California.

13. Commercial Confidential Information Statement which describes the specific required information contained in the petition that is considered to be Confidential Business Information (CBI) or confidential commercial information and the basis for that determination.

No information contained in this Petition is CBI.

APPEDICES

Appendix 1: JEFFSOL[®] AG 1555 Propylene Carbonate MSDS

Appendix 2: FR Tolerance Approval on 40 CFR 180.950 Minimal Risk List

Appendix 3: EPA OPP IIAB InertFinder with Huntsman Data Rights

Appendix 4: U.S. EPA Propylene Carbonate VOC Exemption FR Notice

Appendix 5: California Propylene Carbonate VOC Exemption Rule 102 pgs 1-5

Appendix 6: Propylene Carbonate Process Schematic

Appendix 7: JEFFSOL[®] AG 1555 Propylene Carbonate TDS

APPENDIX 1: JEFFSOL® AG 1555 Propylene Carbonate MSDS

Material Safety Data Sheet



JEFFSOL® AG 1555

1. Product and company identification

Product name : JEFFSOL® AG 1555
Material uses : Solvent.
(M)SDS # : 00030690
Validation date : 8/28/2013.
Supplier/Manufacturer : Huntsman International LLC
P.O. Box 4980
The Woodlands, TX 77387

Technical Information: (281) 719-7780
E-Mail: MSDS@huntsman.com

In case of emergency : Chemtrec: (800) 424-9300 or (703) 527-3887

2. Hazards identification

Physical state : Liquid.
Odor : Faint odor.
Color : Colorless.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview : WARNING!
CAUSES EYE IRRITATION.
Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

See toxicological information (Section 11)

GENERAL INFORMATION : Read the entire MSDS for a more thorough evaluation of the hazards.

3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Propylene carbonate	108-32-7	60 - 100

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

4 . First aid measures

Notes to physician : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

5 . Fire-fighting measures

Flash point : Closed cup: 135°C (275°F) [ASTM D 93 (Pensky-Martens Closed Cup)]

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Engineering measures** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Personal protection**
- Respiratory** : In case of inadequate ventilation wear 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.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : 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.

9 . Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Colorless.
- Odor** : Faint odor.
- pH** : 7
- Boiling/condensation point** : 242°C (467.6°F)
- Melting/freezing point** : -49°C (-56.2°F)
- Flash point** : Closed cup: 135°C (275°F) [ASTM D 93 (Pensky-Martens Closed Cup)]
- Flammable limits** : Not available.
- Auto-ignition temperature** : 430°C (806°F)
- Oxidizing properties** : None.
- Vapor pressure** : 0.0031 kPa [20°C]

9 . Physical and chemical properties

Specific gravity	: 1.2		
Water solubility	: 200 g/l	25	deg C
Water solubility	: Soluble		
Partition coefficient: n-octanol/water (log Kow)	: -0.5		
Viscosity	: Dynamic (room temperature): 2.5 mPa·s (2.5 cP) Kinematic (room temperature): 0.016 cm ² /s (1.6 cSt)		
Density	: 1.2 g/cm ³ [25°C (77°F)]		
Vapor density	: 3.5 [Air = 1]		
Evaporation rate (butyl acetate = 1)	: <0.005 (butyl acetate = 1)		

10 . Stability and reactivity

Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Test	Endpoint	Species	Result
Propylene carbonate	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg
	No official guidelines	LD50 Oral	Rat - Male, Female	33520 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Propylene carbonate	EPA OPPTS OECD 404 Acute Dermal Irritation/Corrosion	Rabbit Rabbit	Eyes - Moderate irritant Skin - Non-irritant.

Sensitizer

Product/ingredient name	Test	Route of exposure	Species	Result
Propylene carbonate	No official guidelines	skin	Human	Not sensitizing

Mutagenicity

11 . Toxicological information

Product/ingredient name	Test	Result
Propylene carbonate	Experiment: In vitro Subject: Mammalian-Animal	Negative
	Experiment: In vitro Subject: bacteria/yeast Metabolic activation: +/-	Negative
	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/ Summary : Propylene carbonate Not mutagenic in a standard battery of genetic toxicological tests.

Carcinogenicity

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result type
Propylene carbonate	OECD 451 Carcinogenicity Studies	Mouse - Male	1500 to 2000 mg/kg	104 weeks; 2 days per week	Negative - Dermal - NOAEL

Reproductive toxicity

Product/ingredient name	Test	Species	Maternal toxicity	Fertility	Developmental effects
Propylene carbonate	OECD 414 Prenatal Developmental Toxicity Study	Rat	Negative	Negative	Negative

Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Propylene carbonate	OECD 414 Prenatal Developmental Toxicity Study	Rat - Male, Female	Negative - Oral

Potential acute health effects

- Inhalation** : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Eye contact : Irritating to eyes.

Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Result
Propylene carbonate	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Sub-chronic NOEL Oral	Rat - Male, Female	>5000 mg/kg
	OECD 413 Subchronic Inhalation Toxicity: 90-day Study	Sub-chronic NOEC Inhalation Dusts and mists	Rat - Male, Female	100 mg/m ³

11 . Toxicological information

- General** : No known significant effects or critical hazards.
- Target organs** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Medical conditions aggravated by over-exposure**
None known.

12 . Ecological information

Environmental effects : Readily biodegradable This product shows a low bioaccumulation potential.

Aquatic ecotoxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result	
Propylene carbonate	DIN DIN 38412 Part 8	Acute	EC50	16 hours Static	Bacteria	25619 mg/l
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute	EC50	48 hours Static	Daphnia	>1000 mg/l
	OECD 201 Alga, Growth Inhibition Test	Acute	EbC50 (biomass)	72 hours Static	Algae	>929 mg/l
	OECD 201 Alga, Growth Inhibition Test	Acute	ErC50 (growth rate)	72 hours Static	Algae	>900 mg/l
	EU EC C.1 Acute Toxicity for Fish	Acute	LC50	96 hours Semi- static	Fish	>1000 mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	NOEC	72 hours Static	Algae	900 mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	NOEC	72 hours Static	Algae	929 mg/l

Persistence and degradability

Product/ingredient name	Test	Period	Result
Propylene carbonate	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	29 days	83.5 to 87.7 %

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Propylene carbonate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Propylene carbonate	-0.5	-	low

12 . Ecological information

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

BOD5 : Not Determined

COD : Not Determined

TOC : Not Determined

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14 . Transport information

Proper shipping name

DOT : Not regulated.

TDG : Not regulated.

IMDG : Not regulated.

IATA : Not regulated.

Regulatory information	UN number	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-		-
TDG Classification	Not regulated.	-	-		-
IMDG Class	Not regulated.	-	-		-
IATA-DGR Class	Not regulated.	-	-		-

PG* : Packing group

15 . Regulatory information

United States

- HCS Classification** : Irritating material
- U.S. Federal regulations**
- TSCA 8(b) inventory** : **United States inventory (TSCA 8b):** All components are listed or exempted.
- TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.
- TSCA 5(e) substance consent order** : No ingredients listed.
- TSCA 12(b) export notification** : No ingredients listed.
- SARA 311/312** : Immediate (acute) health hazard
- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : No ingredients listed.
- Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.
- SARA 313** : No ingredients listed.
- CERCLA Hazardous substances** :

Components	Concentration %	Section 304 CERCLA Hazardous Substance	CERCLA Reportable Quantity (Lbs)	Product Reportable Quantity (Lbs)
Propylene oxide	0.001	Listed	100	10000000

State regulations

- PENNSYLVANIA - RTK** : No ingredients listed.
- California Prop 65** : **WARNING:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.
- | <u>Ingredient name</u> | <u>Cancer</u> | <u>Reproductive</u> |
|------------------------|---------------|---------------------|
| Propylene oxide | Yes. | No. |

International regulations

- Canada**
- WHMIS (Canada)** : Class D-2B: Material causing other toxic effects (Toxic).
- CEPA DSL** : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

15 . Regulatory information

[International lists](#) : **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

16 . Other information

Label requirements : CAUSES EYE IRRITATION.
Hazardous Material Information System (U.S.A.) :

Health	1
Flammability	1
Physical hazards	0
Personal protection	

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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Date of previous issue : 3/31/2009
Version : 1

Indicates information that has changed from previously issued version.

[Notice to reader](#)

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent

16 . Other information

upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.

APPENDIX 2: FR Tolerance Approval on 40 CFR 180.950 Minimal Risk List



Federal Register / Vol. 68, No. 172 / Friday, September 5, 2003 / Rules and Regulations 52695

EPA-APPROVED NEBRASKA REGULATIONS—Continued

Nebraska citation	Title	State effective date	EPA approval date	Comments
129-30	Open Fires, Prohibited; Ex-ceptions.	11/20/02	9/5/03 and FR page citation.	

* * * * *

PART 70—[AMENDED]

■ 1. The authority citation for part 70 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Appendix A—[Amended]

■ 2. Appendix A to part 70 is amended by adding paragraph (g) under Nebraska; City of Omaha; Lincoln-Lancaster County Health Department to read as follows:

Appendix A to Part 70—Approval Status of State and Local Operating Permits Programs

Nebraska; City of Omaha; Lincoln-Lancaster County Health Department.

(g) The Nebraska Department of Environmental Quality approved revisions to NDEQ Title 129, chapters 1, 5, 6, and appendix III (which codifies its prior Federally approved Insignificant Activities List) on September 5, 2002, which became effective on November 20, 2002. These revisions were submitted on May 1, 2003. We are approving these program revisions effective November 4, 2003.

[FR Doc. 03-22539 Filed 9-4-03; 8:45 am]
BILLING CODE 6680-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 180

[OPP-2003-0284; FRL-7323-7]

Propylene Carbonate; Exemption from the Requirement of a Tolerance

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation establishes an exemption from the requirement of a tolerance for residues of propylene carbonate when used as an inert ingredient in pesticide formulations applied pre- and post-harvest to

agricultural commodities. Huntsman Corporation submitted a petition to EPA under the Federal Food, Drug, and Cosmetic Act, as amended by the Food Quality Protection Act of 1996, requesting an exemption from the requirement of a tolerance. This regulation eliminates the need to establish a maximum permissible level for residues of propylene carbonate.

DATES: This regulation is effective September 5, 2003. Objections and requests for hearings, identified by docket ID number OPP-2003-0284, must be received on or before November 4, 2003.

ADDRESSES: Written objections and hearing requests submitted electronically, by mail, or through hand delivery/courier. Follow the detailed instructions as provided in Unit VIII. of the **SUPPLEMENTARY INFORMATION.**

FOR FURTHER INFORMATION CONTACT: Kathryn Boyle, Registration Division (7505C), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001; telephone number: (703) 305-6304; e-mail address: boyle.kathryn@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this Action Apply to Me?

You may be potentially affected by this action if you are an agricultural producer, food manufacturer, or pesticide manufacturer. Potentially affected entities may include, but are not limited to:

- Crop production (NAICS 111)
- Animal production (NAICS 112)
- Food manufacturing (NAICS 311)
- Pesticide manufacturing (NAICS 32532)

This listing is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. Other types of entities not listed in this unit could also be affected. The North American Industrial Classification System (NAICS) codes have been provided to assist you and others in determining

whether this action might apply to certain entities. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed under **FOR FURTHER INFORMATION CONTACT.**

B. How Can I Get Copies of this Document and Other Related Information?

1. **Docket.** EPA has established an official public docket for this action under docket identification (ID) number OPP-2003-0284. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the Public Information and Records Integrity Branch (PIRIB), Rm. 119, Crystal Mall #2, 1921 Jefferson Davis Hwy., Arlington, VA. This docket facility is open from 8:30 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The docket telephone number is (703) 305-5805.

2. **Electronic access.** You may access this **Federal Register** document electronically through the EPA Internet under the "**Federal Register**" listings at <http://www.epa.gov/edrgstr/>. A frequently updated electronic version of 40 CFR part 180 is available at http://www.access.gpo.gov/nara/cfr/cfrhtml_00/Title_40/40cfr180_00.html, a beta site currently under development.

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at <http://www.epa.gov/edocket/> to submit or view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Although not all docket materials may be available electronically, you may still

access any of the publicly available docket materials through the docket facility identified in Unit I.B.1. Once in the system, select "search," then key in the appropriate docket ID number.

II. Background and Statutory Findings

In the **Federal Register** of December 30, 1998 (63 FR 71920) (FRL-6050-1), EPA issued a notice pursuant to section 408 of the Federal Food, Drug, and Cosmetic Act (FFDCA), 21 U.S.C. 346a, as amended by the Food Quality Protection Act (FQPA) (Public Law 104-170), announcing the filing of a pesticide tolerance petition (PP 8E4992) by Huntsman Corporation, Houston, Texas. This notice included a summary of the petition prepared by the petitioner Huntsman. There were no comments received in response to the notice of filing.

The petition requested that 40 CFR 180.1001(c) be amended by establishing an exemption from the requirement of a tolerance for residues of propylene carbonate, also known as 1,3-Dioxolan-2-one, 4-methyl- (CAS Reg. No. 108-32-7).

Section 408(b)(2)(A)(i) of the FFDCA allows EPA to establish an exemption from the requirement for a tolerance (the legal limit for a pesticide chemical residue in or on a food) only if EPA determines that the tolerance is "safe." Section 408(b)(2)(A)(ii) defines "safe" to mean that "there is a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue, including all anticipated dietary exposures and all other exposures for which there is reliable information." This includes exposure through drinking water and in residential settings, but does not include occupational exposure. Section 408(b)(2)(C) requires EPA to give special consideration to exposure of infants and children to the pesticide chemical residue in establishing a tolerance and to "ensure that there is a reasonable certainty that no harm will result to infants and children from aggregate exposure to the pesticide chemical residue. . . ."

EPA performs a number of analyses to determine the risks from aggregate exposure to pesticide residues. First, EPA determines the toxicity of pesticides. Second, EPA examines exposure to the pesticide through food, drinking water, and through other exposures that occur as a result of pesticide use in residential settings.

III. Human Health Assessment

A. Toxicological Profile

Consistent with section 408(b)(2)(D) of FFDCA, EPA has reviewed the available scientific data and other relevant information in support of this action and considered its validity, completeness and reliability and the relationship of this information to human risk. EPA has also considered available information concerning the variability of the sensitivities of major identifiable subgroups of consumers, including infants and children. The nature of the toxic effects caused by propylene carbonate are discussed in this unit. The Agency has reviewed 12 toxicity studies using propylene carbonate as the test substance. The results of those reviews are listed in the following Table 1:

TABLE 1.—TOXICITY STUDIES USING PROPYLENE CARBONATE

Study Type	Results
Acute oral (rat)	LD ₅₀ > 5,000 mg/kg (Toxicity Category IV)
Acute dermal (rabbit)	LD ₅₀ > 2,000 mg/kg (Toxicity Category III)
Primary eye irritation (rabbit)	Not a significant ocular irritant (Toxicity Category III)
Primary dermal irritation	(Toxicity Category IV)
Developmental (rat)	Maternal NOAEL = 1,000 mg/kg/day Maternal LOAEL = 3,000 mg/kg/day based on mortality, clinical signs and decreased food consumption Developmental NOAEL = 3,000 mg/kg/day Developmental LOAEL = 5,000 mg/kg/day based on increase in skeletal variations
113-week feeding (rat)	NOAEL = equal to or greater than 5,000 mg/kg/day (HTD - highest dose tested) LOAEL = would be greater than 5,000 mg/kg/day

TABLE 1.—TOXICITY STUDIES USING PROPYLENE CARBONATE—Continued

Study Type	Results
113-week inhalation (rat) with neurotox	NOAEL = 0.5 mg/L/day LOAEL = 1.0 mg/L/day based on clinical signs in both sexes No evidence of neurotoxic potential
Cancer dermal (skin-painting) (mouse)	Negative, but dosing was considered inadequate
9-day inhalation (rat)	NOAEL = not determined - effects seen at lowest dose tested LOAEL = 1 mg/L/day based on clinical signs of toxicity, ocular irritation
Mouse micronucleus	Not mutagenic
UDS	Negative
Gene mutation (<i>S. typhimurium</i>)	Negative

B. Structure Activity Relationship Assessment

For propylene carbonate, toxicity was assessed, in part, by a process called structure-activity-relationship (SAR). In this process, the chemical's structural similarity to other chemicals (for which data are available) is used to determine toxicity. For human health, this process, can be used to assess absorption and metabolism, mutagenicity, carcinogenicity, developmental and reproductive effects, neurotoxicity, systemic effects, immunotoxicity, and sensitization and irritation. This is a qualitative assessment using terms such as good, not likely, poor, moderate, or high.

For propylene carbonate the SAR assessment determined that the chemical was not structurally related to any known carcinogens. The following human exposures were examined as part of the analysis: Inhalation, dermal, exposures to the eyes, and drinking water. Absorption of propylene carbonate is expected to be good (well-absorbed) via all routes (oral, dermal and inhalation) based on physical/chemical properties. There are concerns for effects on the liver and kidneys, solvent-type neurotoxicity and developmental toxicity at high dose levels, and irritation to mucous

membranes. The overall SAR rating for human health is low/moderate concern.

The SAR did note a concern for solvent neurotoxicity, i.e., neurotoxic effects that can occur due to "high" and/or "prolonged" dermal and inhalation exposures to organic solvents. It should be noted that the inclusion of the phrase "solvent-type neurotoxicity" in the SAR assessment does not necessarily indicate chemical-specific concerns. By including this statement those performing the SAR assessment are acknowledging that the chemical is a member of a class of chemicals that can exhibit solvent neurotoxicity.

C. Conclusions

The Agency used two sources of information to determine the toxicity of propylene carbonate: The 12 toxicity studies submitted by the petitioner and reviewed by the Agency, and a SAR assessment. The two sources of data support each other. However, results of the SAR Assessment are a type of predicted data based in part on surrogate data. There is actual data generated using propylene carbonate as the test substance, and actual data has precedence over predicted data.

The Agency reviewed a propylene carbonate developmental toxicity study in the rat with a maternal no observed adverse effect level (NOAEL) of 1,000 milligrams/kilogram/day (mg/kg/day) and a maternal lowest observed adverse effect level (LOAEL) of 3,000 mg/kg/day based on mortality, clinical signs and decreased food consumption. In the same study, the developmental NOAEL is 3,000 mg/kg/day and the developmental LOAEL is 5,000 mg/kg/day based on an increase in skeletal variations. In a propylene carbonate 13-week rat feeding study the NOAEL is equal to or greater than 5,000 mg/kg/day, the highest dose tested. A LOAEL was not identified in that study, but it would be even greater than 5,000 mg/kg/day. It is noted that each of these NOAELs is equal to or greater than 1,000 mg/kg/day. As a matter of practice, for both the developmental and the 13-week toxicity study, the Agency does not encourage testing above 1,000 mg/kg/day. The lack of effects at 1,000 mg/kg/day is considered adequate to define the toxicity, without pushing the dose levels higher until effects are apparent.

The SAR assessment judged propylene carbonate to be of low/moderate concern. It did not identify any carcinogenic concerns. One identified concern was for possible irritation to mucous membranes. This concern would involve the dermal and

inhalation exposure routes and would be addressed through the use of protective equipment such as gloves and respirators, not through establishment of tolerance exemptions.

A concern predicted by the SAR, based on its structural chemistry and chemical class, is for possible solvent neurotoxicity from exposure to propylene carbonate. As previously explained, this statement acknowledges that propylene carbonate is a member of a class of chemicals that can exhibit solvent neurotoxicity. However, the propylene carbonate data base includes a 13-week inhalation toxicity study in the rat with a neurotoxicity evaluation. Based on its review and evaluation of this inhalation toxicity study, the Agency determined that there was no evidence of neurotoxicity potential.

The SAR also indicated a concern for developmental toxicity at high dose levels. However, the Agency reviewed a propylene carbonate developmental toxicity study in the rat with a maternal NOAEL of 1,000 mg/kg/day and a maternal LOAEL of 3,000 mg/kg/day based on mortality, clinical signs and decreased food consumption. In the same study, the developmental NOAEL is 3,000 mg/kg/day and the developmental LOAEL is 5,000 mg/kg/day based on increase in skeletal variations.

Considering the NOAELs of greater than 1,000 mg/kg/day for the propylene carbonate toxicity studies and the overall judgement of low/moderate concern from the SAR assessment, propylene carbonate is of low toxicological concern.

IV. Aggregate Exposures

In examining aggregate exposure, FFDCA section 408 directs EPA to consider available information concerning exposures from the pesticide residue in food and all other non-occupational exposures, including drinking water from ground water or surface water and exposure through pesticide use in gardens, lawns, or buildings (residential and other indoor uses).

Over 1 million pounds of propylene carbonate are either produced or imported per year. Some of this propylene carbonate production is used as a chemical intermediate, in the production of other chemicals. Propylene carbonate has been approved by the Food and Drug Administration for use as an indirect food additive as a component of adhesives. According to 21 CFR 175.105, propylene carbonate can be a component of an adhesive used as part of "articles intended for use in packaging, transporting, or holding

food." Propylene carbonate is also used in cosmetics. Information on the internet (Huntsman website) indicates that propylene carbonate is used in tub and tile cleaners, hard surface and floor cleaners that could be used in and around the home.

The Agency has used various screening-level models to estimate some of the existing levels of exposure, and those that could occur as a result of establishing this tolerance exemption. To assure protectiveness, these estimates are deliberately intended to over-estimate exposure as shown in the following Table 2:

TABLE 2.—SCREENING-LEVELS OF EXPOSURE USING PROPYLENE CARBONATE

Type of Exposure	Exposure Level
Dietary - Food (as a result of application to crops)	Acute exposure: Less than 1 mg/kg/day at 95th percentile chronic exposure: Less than 1 mg/kg/day
Dietary - Drinking Water	Acute exposure: Much less than 1 mg/kg/day Chronic exposure: Much less than 1 mg/kg/day
Residential (as a result of using a cleaning product)	Approximately 6 mg/kg/day
Residential (as a result of using a laundry detergent)	Approximately 1 mg/kg/day
Residential (as a result of application to a lawn)	Less than 1 mg/kg/day

With one exception all of the screening-level exposure estimates are in the range of or less than 1 mg/kg/day. The existing studies for propylene carbonate yielded NOAELs that were equal to or greater than 1,000 mg/kg/day. The screening-level exposure estimates are orders of magnitude lower than these NOAELs. Even considering the reported uses, the use of propylene carbonate as an inert ingredient should result in human exposure far below any dose level that could possibly produce an adverse effect.

V. Cumulative Effects from Substances with a Common Mechanism of Toxicity

Section 408(b)(2)(D)(v) of the FFDCA requires that, when considering whether to establish, modify, or revoke a tolerance, the Agency

consider "available information" concerning the cumulative effects of a particular pesticide's residues and "other substances that have a common mechanism of toxicity."

EPA does not have, at this time, available data to determine whether propylene carbonate has a common mechanism of toxicity with other substances. Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, EPA has not made a common mechanism of toxicity finding as to propylene carbonate and any other substances and propylene carbonate does not appear to produce a toxic metabolite produced by other substances. For the purposes of this tolerance action, therefore, EPA has not assumed that propylene carbonate has a common mechanism of toxicity with other substances. For information regarding EPA's efforts to determine which chemicals have a common mechanism of toxicity and to evaluate the cumulative effects of such chemicals, see the policy statements released by EPA's Office of Pesticide Programs concerning common mechanism determinations and procedures for cumulating effects from substances found to have a common mechanism on EPA's website at <http://www.epa.gov/pesticides/cumulative/>.

VI. Determination of Safety for U.S. Population, Infants and Children

Based on the available data, the SAR assessment indicating low/moderate concern and the data submitted by the petitioner, Huntsman Corporation, which indicate that the chemical is of low toxicological concern, EPA concludes that propylene carbonate does not pose a dietary risk under reasonably foreseeable circumstances. Accordingly, EPA finds that there is a reasonable certainty that no harm will result to the general population, and to infants and children from aggregate exposure to propylene carbonate. Due to the expected low oral toxicity, a safety factor analysis has not been used to assess the risk. For the same reasons and especially considering the developmental toxicity NOAEL, the additional tenfold safety factor for the protection of infants and children is unnecessary.

Based on the information in this preamble, EPA concludes that there is a reasonable certainty of no harm from aggregate exposure to residues of 1,3-Dioxolan-2-one, 4-methyl- (propylene carbonate). Accordingly, EPA finds that exempting 1,3-Dioxolan-2-one, 4-methyl-(propylene carbonate) (CAS Reg.

No. 108-32-7) from the requirement of a tolerance will be safe.

VII. Other Considerations

A. Endocrine Disruptors

FQPA requires EPA to develop a screening program to determine whether certain substances, including all pesticide chemicals (both inert and active ingredients), "may have an effect in humans that is similar to an effect produced by a naturally occurring estrogen, or such other endocrine effect. . ." EPA has been working with interested stakeholders to develop a screening and testing program as well as a priority setting scheme. As the Agency proceeds with implementation of this program, further testing of products containing propylene carbonate for endocrine effects may be required.

B. Analytical Method(s)

An analytical method is not required for enforcement purposes since the Agency is establishing an exemption from the requirement of a tolerance without any numerical limitation.

C. Existing Tolerances

There are no existing tolerances or tolerance exemptions for propylene carbonate.

D. International Tolerances

The Agency is not aware of any country requiring a tolerance for propylene carbonate nor have any CODEX Maximum Residue Levels been established for any food crops at this time.

E. List 4A (Minimal Risk) Classification

The Agency established 40 CFR 180.950 (see the rationale in the proposed rule published January 15, 2002 (67 FR 1925) (FRL-6807-8)) to collect the tolerance exemptions for those substances classified as List 4A, i.e., minimal risk substances. As part of evaluating an inert ingredient and establishing the tolerance exemption, the Agency determines the chemical's list classification.

The available data and the SAR assessment indicated propylene carbonate is of lower toxicity. Given the NOAELs of greater than 1,000 mg/kg/day and the acute toxicity studies that were category III and IV, it has been determined that propylene carbonate, also known as 1,3-Dioxolan-2-one, 4-methyl- (CAS Reg. No. 108-32-7) is to be classified as a List 4A inert ingredient. Thus, the tolerance exemption will be established in 40 CFR 180.950 instead of 40 CFR 180.1001(c) as requested by the petitioner, Huntsman.

VIII. Conclusions

Based on the information in the record, summarized in this preamble, EPA concludes that there is a reasonable certainty of no harm from aggregate exposure to residues of propylene carbonate (CAS Reg. No. 108-32-7). Accordingly, EPA finds that exempting propylene carbonate from the requirement of a tolerance will be safe.

IX. Objections and Hearing Requests

Under section 408(g) of the FFDCA, as amended by the FQPA, any person may file an objection to any aspect of this regulation and may also request a hearing on those objections. The EPA procedural regulations which govern the submission of objections and requests for hearings appear in 40 CFR part 178. Although the procedures in those regulations require some modification to reflect the amendments made to the FFDCA by the FQPA of 1996, EPA will continue to use those procedures, with appropriate adjustments, until the necessary modifications can be made. The new section 408(g) provides essentially the same process for persons to "object" to a regulation for an exemption from the requirement of a tolerance issued by EPA under new section 408(d), as was provided in the old FFDCA sections 408 and 409. However, the period for filing objections is now 60 days, rather than 30 days.

A. What Do I Need to Do to File an Objection or Request a Hearing?

You must file your objection or request a hearing on this regulation in accordance with the instructions provided in this unit and in 40 CFR part 178. To ensure proper receipt by EPA, you must identify docket ID number OPP-2003-0284 in the subject line on the first page of your submission. All requests must be in writing, and must be mailed or delivered to the Hearing Clerk on or before November 4, 2003.

1. *Filing the request.* Your objection must specify the specific provisions in the regulation that you object to, and the grounds for the objections (40 CFR 178.25). If a hearing is requested, the objections must include a statement of the factual issues(s) on which a hearing is requested, the requestor's contentions on such issues, and a summary of any evidence relied upon by the objector (40 CFR 178.27). Information submitted in connection with an objection or hearing request may be claimed confidential by marking any part or all of that information as CBI. Information so marked will not be disclosed except in accordance with procedures set forth in

40 CFR part 2. A copy of the information that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential may be disclosed publicly by EPA without prior notice.

Mail your written request to: Office of the Hearing Clerk (1900C), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001. You may also deliver your request to the Office of the Hearing Clerk in Rm. 104, Crystal Mall #2, 1921 Jefferson Davis Hwy., Arlington, VA. The Office of the Hearing Clerk is open from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Office of the Hearing Clerk is (703) 603-0061.

2. Tolerance fee payment. If you file an objection or request a hearing, you must also pay the fee prescribed by 40 CFR 180.33(i) or request a waiver of that fee pursuant to 40 CFR 180.33(m). You must mail the fee to: EPA Headquarters Accounting Operations Branch, Office of Pesticide Programs, P.O. Box 360277M, Pittsburgh, PA 15251. Please identify the fee submission by labeling it "Tolerance Petition Fees."

EPA is authorized to waive any fee requirement "when in the judgement of the Administrator such a waiver or refund is equitable and not contrary to the purpose of this subsection." For additional information regarding the waiver of these fees, you may contact James Tompkins by phone at (703) 305-5697, by e-mail at tompkins.jim@epa.gov, or by mailing a request for information to Mr. Tompkins at Registration Division (7505C), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001.

If you would like to request a waiver of the tolerance objection fees, you must mail your request for such a waiver to: James Hollins, Information Resources and Services Division (7502C), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001.

3. Copies for the Docket. In addition to filing an objection or hearing request with the Hearing Clerk as described in Unit IX.A., you should also send a copy of your request to the PIRIB for its inclusion in the official record that is described in Unit I.B.1. Mail your copies, identified by docket ID number OPP-2003-0284, to: Public Information and Records Integrity Branch, Information Resources and Services Division (7502C), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave., NW.,

Washington, DC 20460-0001. In person or by courier, bring a copy to the location of the PIRIB described in Unit I.B.1. You may also send an electronic copy of your request via e-mail to: opp-docket@epa.gov. Please use an ASCII file format and avoid the use of special characters and any form of encryption. Copies of electronic objections and hearing requests will also be accepted on disks in WordPerfect 6.1/8.0 or ASCII file format. Do not include any CBI in your electronic copy. You may also submit an electronic copy of your request at many Federal Depository Libraries.

B. When Will the Agency Grant a Request for a Hearing?

A request for a hearing will be granted if the Administrator determines that the material submitted shows the following: There is a genuine and substantial issue of fact; there is a reasonable possibility that available evidence identified by the requestor would, if established resolve one or more of such issues in favor of the requestor, taking into account uncontested claims or facts to the contrary; and resolution of the factual issues(s) in the manner sought by the requestor would be adequate to justify the action requested (40 CFR 178.32).

X. Statutory and Executive Order Reviews

This final rule establishes an exemption from the tolerance requirement under FFDCA section 408(d) in response to a petition submitted to the Agency. The Office of Management and Budget (OMB) has exempted these types of actions from review under Executive Order 12866, entitled *Regulatory Planning and Review* (58 FR 51735, October 4, 1993). Because this rule has been exempted from review under Executive Order 12866 due to its lack of significance, this rule is not subject to Executive Order 13211, *Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use* (66 FR 28355, May 22, 2001). This final rule does not contain any information collections subject to OMB approval under the Paperwork Reduction Act (PRA), 44 U.S.C. 3501 *et seq.*, or impose any enforceable duty or contain any unfunded mandate as described under Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) (Public Law 104-4). Nor does it require any special considerations under Executive Order 12898, entitled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 FR 7629, February 16, 1994); or OMB review or any Agency

action under Executive Order 13045, entitled *Protection of Children from Environmental Health Risks and Safety Risks* (62 FR 19885, April 23, 1997). This action does not involve any technical standards that would require Agency consideration of voluntary consensus standards pursuant to section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104-113, section 12(d) (15 U.S.C. 272 note). Since tolerances and exemptions that are established on the basis of a petition under FFDCA section 408(d), such as the exemption in this final rule, do not require the issuance of a proposed rule, the requirements of the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*) do not apply. In addition, the Agency has determined that this action will not have a substantial direct effect on States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132, entitled *Federalism* (64 FR 43255, August 10, 1999). Executive Order 13132 requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." This final rule directly regulates growers, food processors, food handlers and food retailers, not States. This action does not alter the relationships or distribution of power and responsibilities established by Congress in the preemption provisions of FFDCA section 408(n)(4). For these same reasons, the Agency has determined that this rule does not have any "tribal implications" as described in Executive Order 13175, entitled *Consultation and Coordination with Indian Tribal Governments* (65 FR 67249, November 6, 2000). Executive Order 13175, requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." "Policies that have tribal implications" is defined in the Executive Order to include regulations that have "substantial direct effects on

one or more Indian tribes, on the relationship between the Federal Government and the Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes." This rule will not have substantial direct effects on tribal governments, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this rule.

XI. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides

(e) * * *

that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of this final rule in the **Federal Register**. This final rule is not a "major rule" as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 180

Environmental protection, Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: August 22, 2003.

Peter Caulkins,
Acting Director, Registration Division, Office of Pesticide Programs.

■ Therefore, 40 CFR chapter I is amended as follows:

PART 180—[AMENDED]

■ 1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 321(q), 346(a) and 371.

■ 2. Section 180.950 is amended by adding alphabetically the following ingredient to the table in paragraph (e) to read as follows.

§ 180.950 Tolerance exemptions for minimal risk active and inert ingredients.

* * * * *

Chemical	CAS No.
1,3-Dioxolan-2-one, 4-methyl-(propylene carbonate)	108-32-7

[FR Doc. 03-22546 Filed 9-4-03; 8:45am]
BILLING CODE 6680-50-3

DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

44 CFR Part 62

RIN 1660-AA29

National Flood Insurance Program (NFIP); Assistance to Private Sector Property Insurers; Extension of Term of Arrangement

AGENCY: Federal Emergency Management Agency (FEMA).
Emergency Preparedness and Response Directorate, Department of Homeland Security.

ACTION: Interim final rule.

SUMMARY: FEMA is changing the current Financial Assistance/Subsidy Arrangement (the Arrangement) to extend its term of October 1, 2002, through September 30, 2003, to a term of October 1, 2002, through December 31, 2003. The Arrangement defines the duties and responsibilities of insurers that sell and service insurance under the Write Your Own (WYO) program. It also

identifies the responsibilities of the Government to provide financial and technical assistance to these insurers.

DATES: Effective October 1, 2003. Comments on this interim final rule, should be received on or before October 6, 2003.

ADDRESSES: Please send your comments to the Rules Docket Clerk, Office of the General Counsel, Federal Emergency Management Agency, 500 C Street, SW., Room 840, Washington, DC 20472, (facsimile) 202-646-4536, or (e-mail) rules@fema.gov.

FOR FURTHER INFORMATION CONTACT: Edward L. Connor, FEMA, 500 C Street, SW., Washington, DC 20472, 202-646-3429 (Phone), 202-646-3445 (facsimile), or Edward.Connor@dhs.gov (e-mail).

SUPPLEMENTARY INFORMATION: On August 9, 2002, FEMA published in the **Federal Register**, 67 FR 51768, a final rule to revise the effective date of the Arrangement to agree with the new Arrangement year beginning October 1, 2002, and ending September 30, 2003.

FEMA had planned to make significant changes in the Arrangement regarding litigation issues effective October 1, 2003. However, as the proposed rule for these changes has not yet been published in the **Federal Register**, it is not feasible to complete the rulemaking for an effective date of

October 1, 2003. WYO insurers need to receive an offer to enter into the Arrangement each year well in advance of the beginning of the Arrangement year. By extending the current Arrangement for an additional 3 months, the revised Arrangement with the litigation changes can be effective January 1, 2004, instead of postponing these changes to October 1, 2004. WYO insurers can always elect to cease participation in the WYO program at any time, so any insurer not desiring to participate for the additional 3 months of this extension may cease participation as of October 1, 2003.

Under this extension of the current Arrangement, the expense allowance provided for in Article III, Section B of APPENDIX A TO PART 62—FEDERAL EMERGENCY MANAGEMENT AGENCY, FEDERAL INSURANCE ADMINISTRATION, FINANCIAL ASSISTANCE/SUBSIDY ARRANGEMENT will remain the same for the additional 3 months as it is now, except there will be no additional expense allowance of up to two percentage points for meeting marketing goals for the three-month extension. This additional expense allowance will be based on the period October 1, 2002, through September 30, 2003.

APPENDIX 3: EPA OPP IIAB InertFinder with Huntsman Data Rights



Inert Details | InertFinder | Pesticides | US EPA

Propylene carbonate

Synonyms

F **NF** [Approved for Food and Nonfood Use - see below for use limitations.]

CAS Reg. No.(s):

108-32-7 [EPA Chemical Data Access Tool]



Approved for Food Use

Click on the CFR Number below for required use limitations in the CFR.

Search for the following in the e-CFR...

1,3-Dioxolan-2-one, 4-methyl-(propylene carbonate)

Food Use tolerance information (40 CFR Part 180)

CFR Title	CFR Number	Limits	Uses*
-	180.950e	-	-

* A value of "Do" is the CFR representation of ditto, which refers to uses listed immediately preceding that entry in the CFR. See the e-CFR or c



Approved for Nonfood Use

Data Submitter

If there is a gray checkmark in the data submitter box, do not use the inert ingredient unless you own the data or have discussed data compensation. Click the Contact Us icon in the upper right of the screen to send an email to EPA's Inert Ingredient Assessment Branch.

Data Compensation	Notes
<input checked="" type="checkbox"/>	Huntsman Chemical is the data owner for use of propylene carbonate as an inert ingredient.

APPENDIX 4: U.S. EPA Propylene Carbonate VOC Exemption FR Notice

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 51

[EPA-HQ-OAR-2006-0948; FRL-8763-7]

RIN 2060-AN75

Air Quality: Revision to Definition of Volatile Organic Compounds—Exclusion of Propylene Carbonate and Dimethyl Carbonate

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action revises EPA's definition of volatile organic compounds (VOCs) for purposes of preparing state implementation plans (SIPs) to attain the national ambient air quality standard for ozone under Title I of the Clean Air Act (Act). This revision adds the compounds propylene carbonate and dimethyl carbonate to the list of compounds which are excluded from the definition of VOC on the basis that these compounds make a negligible contribution to tropospheric ozone formation.

DATES: This final rule is effective on February 20, 2009.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2006-0948. All documents in the docket are listed on the <http://www.regulations.gov> Web site. Although listed in the index, some information is not publicly available, i.e., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in <http://www.regulations.gov> or in hard copy at the Docket ID No. EPA-HQ-OAR-2006-0948, EPA/DC, EPA West, Room 3334, 1301 Constitution Avenue, Northwest, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Docket ID No. EPA-HQ-OAR-2006-0948 is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: William L. Johnson, Office of Air Quality Planning and Standards, Air Quality Policy Division, Mail code C539-01, Research Triangle Park, NC 27711, telephone (919) 541-5245.; fax number: 919-541-0824; e-mail address: Johnson.WilliamL@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

You may be an entity affected by this policy change if you use or emit propylene carbonate or dimethyl carbonate. States which have programs to control VOC emissions will also be affected by this change.

Category	Examples of affected entities
Industry ..	Industries that make and use coatings, adhesives, inks or which perform paint stripping or pesticide application.
States	States that control VOC.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. This table lists the types of entities that EPA is now aware of that could potentially be affected by this action. Other types of entities not listed in the table could also be affected. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section. This action has no substantial direct effects on industry because it does not impose any new mandates on these entities, but, to the contrary, removes two chemical compounds from the regulatory definition of VOC, and therefore from regulation for federal purposes.

B. How is this preamble organized?

The information presented in this preamble is organized as follows:

Outline

- I. General Information
 - A. Does this action apply to me?
 - B. How is this preamble organized?
- II. Background
 - A. Propylene Carbonate
 - B. Dimethyl Carbonate
- III. Response to Comments
- IV. Final Action
- V. Statutory and Executive Order Reviews
 - A. Executive Order 12866: Regulatory Planning and Review
 - B. Paperwork Reduction Act
 - C. Regulatory Flexibility Act
 - D. Unfunded Mandates Reform Act
 - E. Executive Order 13132: Federalism
 - F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments
 - G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks
 - H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use
 - I. National Technology Transfer Advancement Act

- J. Executive Order 12848: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
- K. Congressional Review Act

II. Background

Tropospheric ozone, commonly known as smog, occurs when VOCs and nitrogen oxides (NO_x) react in the atmosphere. Because of the harmful health effects of ozone, EPA and state governments limit the amount of VOCs and NO_x that can be released into the atmosphere. The VOCs are those organic compounds of carbon which form ozone through atmospheric photochemical reactions. Different VOCs have different levels of reactivity—that is, they do not react to form ozone at the same speed or do not form ozone to the same extent. Some VOCs react slowly, and changes in their emissions have limited effects on local or regional ozone pollution episodes. It has been EPA's policy that organic compounds with a negligible level of reactivity should be excluded from the regulatory definition of VOC, so as to focus VOC control efforts on compounds that do significantly increase ozone concentrations. The EPA also believes that exempting such compounds creates an incentive for industry to use negligibly reactive compounds in place of more highly reactive compounds that are regulated as VOCs. The EPA lists these negligibly reactive compounds in its regulations (at 40 CFR 51.100(s)) and excludes them from the definition of VOCs.

Since 1977, EPA has used the reactivity of ethane as the threshold for determining negligible reactivity. Compounds that are less reactive than, or equally reactive to, ethane under the assumed conditions may be deemed negligibly reactive. Compounds that are more reactive than ethane continue to be considered reactive VOCs and therefore subject to control requirements. The selection of ethane as the threshold compound was based on a series of smog chamber experiments that underlay the 1977 policy.

In the past, EPA has considered three different metrics to compare the reactivity of a specific compound to that of ethane: (i) The reaction rate constant with the hydroxyl radical (known as k_{OH}), (ii) maximum incremental reactivities (MIR) expressed on a reactivity per gram basis, and (iii) MIR expressed on a reactivity per mole basis. Table 1 presents these three reactivity metrics for ethane and for the two compounds discussed in this rule. Differences between these three metrics are discussed below.

TABLE 1—REACTIVITIES OF ETHANE AND COMPOUNDS CONSIDERED FOR EXEMPTION

Compound	k_{OH} ($\text{cm}^3/\text{molecule}\cdot\text{sec}$)	MIR ($\text{g O}_3/\text{mole VOC}$)	MIR ($\text{g O}_3/\text{gram VOC}$)
Ethane	2.4×10^{-13}	8.12	0.27
Propylene carbonate	6.9×10^{-13}	27.56	0.27
Dimethyl carbonate	3.49×10^{-13}	5.04	0.056

Notes:

1. k_{OH} value for ethane is from: R. Atkinson, D. L. Baulch, R. A. Cox, J. N. Crowley, R. F. Hampson, Jr., R. G. Hynes, M. E. Jenkin, J. A. Kerr, M. J. Rossi and J. Troe (2004), Summary of Evaluated Kinetic and Photochemical Data for Atmospheric Chemistry

2. k_{OH} value for propylene carbonate is reported in: W.P.L. Carter, D. Luo, I.L. Malkina, E.C. Tuazon, S.M. Aschmann, and R. Atkinson (July 8, 1996), "Investigation of the Atmospheric Ozone Formation Potential of t-butyl Alcohol, N-Methyl Pyrrolidinone and Propylene Carbonate." University of California—Riverside. [ftp://ftp.cert.ucr.edu/pub/carter/pubs/arcrcpt.pdf](http://ftp.cert.ucr.edu/pub/carter/pubs/arcrcpt.pdf).

3. k_{OH} value for dimethyl carbonate is reported in: Y. Katrib, G. Deiber, P. Mirabel, S. LeCalve, C. George, A. Mellouki, and G. Le Bras (2002), "Atmospheric loss processes of dimethyl and diethyl carbonate," *J. Atmos. Chem.*, 43: 151–174.

4. All maximum incremental reactivities or MIR ($\text{g O}_3/\text{g VOC}$) values are from: W. P. L. Carter, "Development of the SAPRC-07 Chemical Mechanism and Updated Ozone Reactivity Scales," Appendix B, July 7, 2008. This may be found at <http://www.engr.ucr.edu/~carter/SAPRC/saprc07.pdf>. These values have been revised slightly from those given in the proposal notice (72 FR 55717).

5. MIR ($\text{g O}_3/\text{mole VOC}$) values were calculated from the MIR ($\text{g O}_3/\text{g VOC}$) values by determining the number of moles per gram of the relevant organic compound.

The k_{OH} is the reaction rate constant of the compound with the OH radical in the air. This reaction is typically the first step in a series of chemical reactions by which a compound breaks down in the air and participates in the ozone forming process. If this step is slow, the compound will likely not form ozone at a very fast rate. The k_{OH} values have long been used by EPA as a measure of photochemical reactivity and ozone forming activity, and they have been the basis for most of EPA's previous exclusions of negligibly reactive compounds. The k_{OH} metric is inherently molar, i.e., it measures the rate at which molecules react.

The MIR values, both by mole and by mass, are more recently developed measures of photochemical reactivity derived from a computer-based photochemical model. These measures consider the complete ozone forming activity of a compound, not merely the first reaction step. Further explanation

of the MIR metric can be found in: W. P. L. Carter, "Development of Ozone Reactivity Scales for Volatile Organic Compositions," *Journal of the Air & Waste Management Association*, Vol 44, 881–899, July 1994.

The MIR values are usually expressed either as grams of ozone formed per mole of VOC (molar basis) or as grams of ozone formed per gram of VOC (mass basis). For comparing the reactivities of two compounds, using the molar MIR values considers an equal number of molecules of the two compounds. Alternatively, using the mass MIR values compares an equal mass of the two compounds, which will involve different numbers of molecules, depending on the relative molecular weights. The molar MIR comparison is consistent with the original smog chamber experiments, which compared equal molar concentrations of individual VOCs, that underlie the original selection of ethane as the threshold compound. It is also consistent with previous reactivity determinations based on inherently molar k_{OH} values. The mass MIR comparison is consistent with how MIR values and other reactivity metrics are applied in reactivity-based emission limits, specifically the California Air Resources Board rule for aerosol coatings (see <http://www.arb.ca.gov/consprod/regs/apt.pdf>).

Given the relatively low molecular weight of ethane, use of the mass basis tends to result in more VOCs falling into the "negligibly reactive" class versus the molar basis. This means that, in some cases, a compound might be considered less reactive than ethane and eligible for VOC exemption under the mass basis but not under the molar basis. One of the compounds considered in this action falls into this situation, where the molar MIR value is greater than that of ethane, but the mass MIR value is less than or equal to that of ethane. This compound is propylene carbonate.

The EPA has considered the choice between a molar or mass basis for the comparison to ethane in past rulemakings and guidance. The design of the VOC exemption policy, including the choice between a mass and mole basis, has been critiqued in the

published literature.³ Most recently, in "Interim Guidance on Control of Volatile Organic Compounds in Ozone State Implementation Plans" published on September 13, 2005 (70 FR 54046), EPA stated:

"* * * a comparison to ethane on a mass basis strikes the right balance between a threshold that is low enough to capture compounds that significantly affect ozone concentrations and a threshold that is high enough to exempt some compounds that may usefully substitute for more highly reactive compounds. * * * When reviewing compounds that have been suggested for VOC exempt status, EPA will continue to compare them to ethane using k_{OH} expressed on a molar basis and MIR values expressed on a mass basis."

Relying on a comparison of mass MIR values consistent with this guidance, EPA proposed to revise its definition of VOC at 40 CFR 51.100(s) to add propylene carbonate and dimethyl carbonate to the list of compounds that are exempt because they are negligibly reactive since they are equal to or less reactive than ethane on a mass basis. For propylene carbonate, EPA invited comment on the alternative use of a molar basis for the comparison of these compounds to ethane.

The technical rationale for recommending an exemption for each of the individual compounds is given below:

A. Propylene Carbonate

Huntsman Corporation submitted a petition to EPA on July 27, 1999, requesting that propylene carbonate be exempted from VOC control based on its low reactivity relative to ethane.

Propylene carbonate (CAS registry number 108–32–7) is an odorless non-viscous clear liquid with a low vapor pressure (0.023 mm Hg at 20(C) and low evaporation rate compared to many other commonly used organic solvents. It has been used in cosmetics, as an adhesive component in food packaging, as a solvent for plasticizers and synthetic fibers and polymers, and as a solvent for aerial pesticide application.

³ Basil Dimitriadis, "Scientific Basis of an Improved EPA Policy on Control of Organic Emissions from Ambient Ozone Reduction," *Journal of the Air & Waste Management Association*, 49:831–838, July 1999.

Huntsman submitted several pieces of information to support its petition, all of which have been added to the docket for this action. One of these pieces of information was "Investigation of the Atmospheric Ozone Formation Potential of t-butyl Alcohol, N-Methyl Pyrrolidinone and Propylene Carbonate" by William P. L. Carter, Dongmin Luo, Irina L. Malkina, Ernesto C. Tuazon, Sara M. Aschmann, and Roger Atkinson, University of California at Riverside, July 8, 1996. Table 8 of that reference lists the MIR for propylene carbonate (on a gram basis) as 1.43 times higher than that of ethane. However, in Table 1 above, EPA has shown a 2007 MIR value that was taken from more recent 2007 data from Dr. Carter's Web site. This 2007 MIR value is lower than that of ethane on a mass basis.

From the data in Table 1, it can be seen that propylene carbonate has a higher k_{OH} value than ethane, meaning that it initially reacts more quickly in the atmosphere than ethane. A molecule of propylene carbonate is also more reactive than a molecule of ethane, as shown by the molar MIR (g O₃/mole VOC) values, since equal numbers of moles have equal numbers of molecules. However, a gram of propylene carbonate is less reactive, or creates less ozone on the day of its emission to the atmosphere, than a gram of ethane. This is because propylene carbonate has a molecular weight (102), which is over three times that of ethane (30), thus requiring less than a third the number of molecules of propylene carbonate to weigh a gram than the number of molecules of ethane needed to weigh a gram.

Based on the mass MIR (g O₃/g VOC) value for propylene carbonate being equal to or less than that of ethane, EPA finds that propylene carbonate is "negligibly reactive" and therefore exempt for the regulatory definition of VOC at 40 CFR 51.100(s). EPA took comments on whether the comparison of propylene carbonate to ethane should instead be made on the basis of the molar MIR (g O₃/mole VOC) value. None of the comments received during the public comment period opposed using the g O₃/g VOC basis. In fact, the comments which addressed that issue supported the use of the MIR on a g O₃/g VOC basis for granting exemptions.

B. Dimethyl Carbonate

The EPA received a petition from Kowa America Corporation on July 29, 2004 seeking an exemption from the regulatory definition of VOC for dimethyl carbonate. This petition asserted that dimethyl carbonate (DMC) is less photochemically reactive than

ethane and asked for the exemption on that basis.

Dimethyl carbonate (CAS registry number 616-38-6) may be used as a solvent in paints and coatings. The petitioner anticipated that it might be used in waterborne paints and adhesives because it is partially water soluble. It is also used as a methylation and carbonylation agent in organic synthesis. It can be used as a fuel additive.

In support of its petition, the petitioner presented articles which give k_{OH} and MIR values for the compound. These articles have been placed in the docket.

As shown in Table 1, DMC has a greater k_{OH} value than ethane, which indicates that DMC will likely initially react more quickly in the atmosphere. However, the MIR values for DMC calculated on either a mass or mole basis are less than that of ethane, which indicates lower reactivity overall. Based on these data, EPA finds that DMC is "negligibly reactive" and therefore exempt from the regulatory definition of VOC at 40 CFR 51.100(s). Because both the mass and molar MIR values of DMC are less than those of ethane, this chemical meets EPA's exemption criteria under either MIR metric.

III. Response to Comments

EPA proposed these actions on October 1, 2007 (72 FR 55717) and took public comment on the proposal. Here is a summary of the comments received during the public comment period and EPA's response. There was no request for a public hearing on the proposal and none was held.

There were four comment letters submitted to the docket during the public comment period. One comment letter was from an individual. Two were from chemical companies. One comment letter was from a trade association. The comments are summarized below.

Comment: The Web site reference for the latest MIR values contained an error. The site which was listed as <http://pah.cert.ucr.edu/carter/SAPRC/scales07.xls> should have been <http://pah.cert.ucr.edu/~carter/SAPRC/scales07.xls>.

Response: We left out the ~ sign in the Web address which made it incorrect. The latest MIR data which is used in this final rule may be found in Appendix B of the July 7, 2008 report by William P. L. Carter "Development of the SAPRC-07 Chemical Mechanism and Updated Ozone Reactivity Scales." This report may be found at <http://www.engr.ucr.edu/~carter/SAPRC/saprc07.pdf>.

Comment: One commenter corrected certain technical information about the evaporation rate of dimethyl carbonate which was listed in the docket.

Response: This correction is noted, but this minor change did not impact whether or not EPA should finalize the exemption petition.

Comment: One commenter supported the use of the latest MIR values for making VOC exemption determinations. There were no comments opposing the use of the latest MIR values.

Response: EPA acknowledged recent MIR values which were made public shortly before the proposal to grant VOC exemption to propylene carbonate and dimethyl carbonate, but based the proposal on older MIR values which had been previously published. EPA is using the latest MIR values for this final rule.² The use of the newer MIR values does not change the conclusion about the VOC exemption of propylene carbonate and dimethyl carbonate.

Comment: The two industry commenters, and the trade association comment letter each expressed support for the VOC exemption of propylene carbonate and dimethyl carbonate.

Response: EPA acknowledges this support and notes that there were no comments opposing these exemptions.

Comment: Three commenters opposed separate tracking and reporting for propylene carbonate and dimethyl carbonate. Two of these commenters also expressed opposition for separate tracking for any VOC exempt compounds.

Response: Although the rule preamble encourages record keeping for propylene carbonate and dimethyl carbonate, there is no requirement for this in the rule itself. Record keeping for other exempt compounds is not the subject of this rulemaking, so comments about that are not relevant to this action.

Comment: Three of the commenters support the use of the mass-based MIR approach versus the mole-based approach. One of the commenters submitted as part of his comments a November 15, 1999 letter written by William P. L. Carter supporting the use of impact per mass as an appropriate basis for comparing ozone reactivities when making VOC exemption decisions. This Carter letter had previously been submitted to EPA as part of the tertiary butyl acetate VOC exemption rule making (69 FR 69298).

² The MIR values used for this rule may be found in Appendix B of the July 7, 2008 report by William P. L. Carter "Development of the SAPRC-07 Chemical Mechanism and Updated Ozone Reactivity Scales." This report may be found at <http://www.engr.ucr.edu/~carter/SAPRC/saprc07.pdf> or in the docket for this rule.

There were no comments opposing the use of the mass-based MIR approach.

Response: EPA specifically requested comment on this subject for propylene carbonate since the mole based MIR value for that compound is higher than that of ethane and using the mole based MIR value would not allow the exemption for propylene carbonate. Because there were no comments opposed to the use of the mass based approach, EPA is proceeding to grant these exemptions on a mass based MIR basis in keeping with the September 13, 2005 interim guidance on control of volatile organic compounds in ozone state implementation plans which says "EPA will continue to compare them [i.e., compounds] to ethane using k_{OH} expressed on a molar basis and MIR values expressed on a mass basis."

Comment: One commenter, who was the petitioner for dimethyl carbonate, said that the company recommended exposure limit of 200 ppm time weighted average 8 hour for dimethyl carbonate is identical to that of methyl acetate, an existing VOC exempt solvent. This commenter also said that methyl acetate like DMC has the potential for hydrolyzing to form methanol in the body and therefore they would be similar in their toxicity profiles and safety handling requirements. The commenter also denied a statement in Hawley's Condensed Chemical Dictionary that DMC is both toxic by inhalation and a strong irritant.

Response: In the proposal, EPA said "While EPA does not have information to suggest that the proposed exemptions could increase health risks due to possible toxicity of the exempted compounds, we invite the public to submit comments and additional information relevant to this issue." The comments here are the only comments EPA received regarding health effects of these compounds. These comments have not led EPA to identify unusual health risks from the compounds.

IV. Final Action

This action is based on EPA's review of the material in Docket ID No. EPA-HQ-OAR-2006-0948. The EPA hereby amends its definition of VOC at 40 CFR 51.100(s) to exclude propylene carbonate and dimethyl carbonate from the regulatory definition of VOC for use in ozone SIPs and ozone controls for purposes of attaining the ozone national ambient air quality standard.

The revised definition will also apply for purposes of any federal implementation plan for ozone nonattainment areas (see e.g., 40 CFR 52.741(a)(3)). States are not obligated to

exclude from control as a VOC those compounds that EPA has found to be negligibly reactive. However, if this action is made final, states should not include these compounds in their VOC emissions inventories for determining reasonable further progress under the Act (e.g., section 182(b)(1)) and may not take credit for controlling these compounds in their ozone control strategy.

Excluding a compound from the regulatory definition of VOC may lead to changes in the amount of the exempt compound used and the types of applications in which the exempt compound is used. Although the final rule has no mandatory reporting requirements, EPA urges states to continue to inventory the emissions of these compounds for use in photochemical modeling.

V. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

This action is not a "significant regulatory action" under the terms of Executive Order 12866 (58 FR 51735, October 4, 1993) and is therefore not subject to review under the Executive Order.

B. Paperwork Reduction Act

This action does not impose any new information collection burden under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* Burden is defined at 5 CFR 1320.3(b). This action is deregulatory in nature and removes requirements rather than adds requirements. The regulation is a rule change that revises a definition of volatile organic compound and imposes no record keeping or reporting requirements.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) requires an agency to prepare a regulatory analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this action on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a

city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this final action on small entities, I certify that this rule will not have a significant economic impact on a substantial number of small entities. This rule will not impose any requirements on small entities. This rule concerns only the definition of VOC and does not directly regulate any entities. The RFA analysis does not consider impacts on entities which the action in question does not regulate. See *Motor & Equipment Manufacturers Ass'n v. Nichols*, 142 F. 3d 449, 467 (D.C. Cir. 1998); *United Distribution Cos. v. FERC*, 88 F. 3d 1105, 1170 (D.C. Cir. 1996), cert. denied, 520 U.S. 1224 (1997). Pursuant to the provision of 5 U.S.C. 605(b), I hereby certify that the rule will not have an impact on small entities.

D. Unfunded Mandates Reform Act

This action contains no federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531-1538 for state, local, and tribal governments and the private sector. Since this rule is deregulatory in nature and does not impose a mandate upon any source, this rule is not estimated to result in the expenditure by state, local and tribal governments or the private sector of \$100 million in any 1 year. Therefore, the Agency has not prepared a budgetary impact statement or specifically addressed the selection of the least costly, most cost-effective, or least burdensome alternative. Because small governments will not be significantly or uniquely affected by this rule, the Agency is not required to develop a plan with regard to small governments. This action is also not subject to the requirements of section 203 of the UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. As discussed above, this final rule does not impose any new requirements on small governments.

E. Executive Order 13132: Federalism

Executive Order 13132, entitled "Federalism" (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by state and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in

the Executive Order to include regulations that have "substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government."

This final rule does not have federalism implications. It will not have substantial direct effects on the state, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This rule concerns only the definition of VOC. Thus, Executive Order 13132 does not apply to this rule.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This rule does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian Tribes, or on the distribution of power and responsibilities between the federal government and Indian Tribes, as specified in Executive Order 13175. This action does not have any direct effects on Indian Tribes. Thus, Executive Order 13175 does not apply to this rule.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. This final rule is not subject to Executive Order 13045 because it does not establish an environmental standard intended to mitigate health or safety risks.

H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use

This final rule is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Further, we have concluded that this rule is not likely to have any adverse energy effects.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law 104-113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not involve technical standards. Therefore, EPA did not consider the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. The final rule amendment is deregulatory and does allow relaxation of the control measures on sources. However, this is not expected to lead to increased ozone formation since the compounds being exempted have been determined to have negligible photochemical reactivity.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a

copy of the rule, to each House of Congress and to the Comptroller General of the United States. Section 804 exempts from section 801 the following types of rules: (1) Rules of particular application; (2) rules relating to agency management or personnel; and (3) rules of agency organization, procedure, or practice that do not substantially affect the rights or obligations of non-agency parties, 5 U.S.C. 804(3). The EPA is not required to submit a rule report regarding this action under section 801 because this is a rule of particular applicability to manufacturers and users of these specific exempt chemical compounds. This action is not a "major rule" as defined by 5 U.S.C. 804(2). Therefore, this rule will be effective on February 20, 2009.

List of Subjects in 40 CFR Part 51

Environmental protection, Administrative practice and procedure, Air pollution control, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: January 13, 2009.

Stephen L. Johnson,
Administrator.

■ For reasons set forth in the preamble, part 51 of chapter I of title 40 of the Code of Federal Regulations is amended as follows:

PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

■ 1. The authority citation for Part 51, Subpart F, continues to read as follows:

Authority: 42 U.S.C. 7401, 7411, 7412, 7413, 7414, 7470-7479, 7501-7508, 7601, and 7602.

§ 51.100 [Amended]

■ 2. Section 51.100 is amended at the end of paragraph (s)(1) introductory text by removing the words "and perfluorocarbon compounds which fall into these classes:" and adding in their place a semi-colon and the words "propylene carbonate; dimethyl carbonate; and perfluorocarbon compounds which fall into these classes:".

[FR Doc. E9-1150 Filed 1-16-09; 8:45 am]

BILLING CODE 6560-50-P

APPENDIX 5: California Propylene Carbonate VOC Exemption Rule 102 pgs 1-5

(Adopted February 4, 1977)(Amended April 1, 1977)(Amended September 2, 1977)
(Amended November 4, 1988)(Amended July 9, 1993)(Amended November 17, 1995)
(Amended June 13, 1997) (Amended March 13, 1998)(Amended June 12, 1998)
(Amended April 9, 1999)(Amended October 19, 2001)(Amended December 3, 2004)
(Amended September 11, 2009)

RULE 102. DEFINITION OF TERMS

Except as otherwise specifically provided in these rules and except where the context otherwise indicates, words used in these rules are used in exactly the same sense as the same words are used in Division 26 of the Health and Safety Code.

AGRICULTURAL BURNING means open outdoor fires used in agricultural operations in the growing of crops or raising of fowl or animals, or open outdoor fires used in forest management, range improvement, or the improvement of land for wildlife and game habitat or disease and pest prevention. Agricultural burning also includes open outdoor fires used in the operation or maintenance of a system for the delivery of water for the purposes specified above.

AGRICULTURAL OPERATIONS means any operation occurring on a ranch or farm directly related to the growing of crops, or raising of fowl or animals for the primary purpose of making a profit or for a livelihood.

AGRICULTURAL PERMIT UNIT means any article, machine, equipment or other contrivance or combination thereof operated at an agricultural source, which is an agricultural operation and may cause or control the emissions of air contaminants that is not exempt from permit. In addition, each of the following at an agricultural source shall be considered a single agricultural permit unit:

- (A) All confined animal facilities, except that portion that is conveyORIZED feed storage and distribution.
- (B) All conveyORIZED feed storage and distribution at confined animal facilities.
- (C) All orchard wind machines powered by an internal combustion engine with a manufacturer's rating greater than 50 brake horsepower, and operated more than 30 hours in a calendar year.

AGRICULTURAL SOURCE means a source of air pollution or a group of sources used in the production of crops, or the raising of fowl or animals located on

contiguous property under common ownership or control that meets any of the following criteria:

- (A) Is a confined animal facility.
- (B) Is a stationary or portable internal combustion engine used in the production of crops or the raising of fowl or animals except an engine that is used to propel implements of husbandry, as that term is defined in Section 36000 of the Vehicle Code, as that section existed on January 1, 2003.
- (C) Is a stationary source required by federal law to be included in an operating permit program established pursuant to Title V of the Federal Clean Air Act (42 U.S.C. Sec. 7661 to 7661f, incl.) and the federal regulation adopted pursuant to Title V, or is a source that is otherwise subject to regulation by a district pursuant to this division or the Federal Clean Air Act (42 U.S.C. Sec. 7401 et seq.)

AGRICULTURAL WASTES means unwanted or unsalable materials produced wholly from agricultural operations, other than forest or range management operations, directly related to the growing of crops or animals for the primary purpose of making a profit or for a livelihood. The term does not include wastes created by land use conversion to non-agricultural purposes unless the destruction of such waste by open outdoor fire is ordered by the County or State Agricultural Commissioner upon his determination that the waste is infested with infections transmittable or contagious plant disease which is an immediate hazard to agricultural operations conducted on adjoining or nearby property.

AIR POLLUTION CONTROL OFFICER means the Executive Officer, or designee of the South Coast Air Quality Management District.

AIR CONTAMINANT or air pollutant means any discharge, release, or other propagation into the atmosphere directly or indirectly caused by man and includes, but is not limited to, smoke, charred paper, dust, soot, grime, carbon, fumes, gases, odors, particulate matters, acids or any combination thereof.

ATMOSPHERE (This definition was adopted on November 16, 1954 for the Metropolitan Zone and on November 23, 1973 for the Southern Zone. It is currently applicable only to the Metropolitan and Southern Zones.) "Atmosphere" means the air that envelopes or surrounds the earth. Where air pollutants are emitted into a building not

designed specifically as a piece of air pollution control equipment, such emission into the building shall be considered an emission into the atmosphere.

BASIC EQUIPMENT means any article, machine, equipment or contrivance which causes the issuance of air contaminants.

BREAKDOWN means a condition caused by an accidental fire or non-preventable mechanical or electrical failure.

CLEAN AIR SOLVENT is a VOC-containing material used to perform solvent cleaning, solvent finishing, or surface preparation operations or activities which:

- (A) Contains no more than twenty-five (25) grams of VOC per liter of material, as applied;
- (B) Has a VOC composite partial vapor pressure less than 5 mm Hg at 20°C (68°F);
- (C) Reacts to form ozone at a rate not exceeding that of toluene;
- (D) Contains no compounds classified as Hazardous Air Pollutants (HAPs) by the Federal Clean Air Act, or Ozone Depleting Compounds (ODCs) and Global Warming Compounds (GWCs) as defined by the District; and
- (E) Has been certified by the District to meet the criteria stated in (A) through (D) according to test methods and procedures approved by the District.

CLEAN AIR SOLVENT CERTIFICATE is a certificate issued by the District to a manufacturer, distributor, or facility for a specified product or class of products that meets the criteria for a Clean Air Solvent.

A Clean Air Solvent Certificate shall be valid for five years from the date of issuance, unless some lesser time is designated and written notification is given by the Executive Officer, and shall be renewed upon the Executive Officer's determination that the product(s) continues to meet the criteria for a Clean Air Solvent. However, the Executive Officer may revoke such Certificate if it is determined that the specific product or class of products does not meet the requirements of Clean Air Solvents as defined at the time of issuance.

COMBUSTIBLE REFUSE means any solid or liquid combustible waste material containing carbon in a free or combined state.

COMBUSTION CONTAMINANTS are particulate matter discharged into the atmosphere from the burning of any kind of material containing carbon in a free or combined state.

COMPLIANCE SCHEDULE means the date or dates by which a source or category of sources is required to comply with specific emission limitations contained in any air pollution rule, regulation, or statute and with any increment of progress toward such compliance.

CONFINED ANIMAL FACILITY (CAF) means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including but not limited to, cattle, calves, horses, sheep, goats, swine, rabbits, chickens, turkeys, or ducks corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

CONTROL EQUIPMENT means air pollution control equipment which eliminates, reduces or controls the issuance of air contaminants.

DISTRICT means the South Coast Air Quality Management District.

DUSTS are minute solid particles released into the air by natural forces or by mechanical processes including, but not limited to, crushing, grinding, milling, drilling, demolishing, shoveling, conveying, covering, bagging, and sweeping.

EXECUTIVE OFFICER means the Executive Officer or designee of the South Coast Air Quality Management District.

EQUIPMENT means any article, machine, or other contrivance.

EXEMPT Compounds are any of the following compounds

(A) Group I

1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee)

1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC 225cb)

3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC 225ca)

- (A) Group I (cont.)
- acetone
 - ethane
 - chlorodifluoromethane (HCFC-22)
 - trifluoromethane (HFC-23)
 - 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
 - 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
 - pentafluoroethane (HFC-125)
 - 1,1,2,2-tetrafluoroethane (HFC-134)
 - 1,1,1,2-tetrafluoroethane (HFC-134a)
 - 1,1-dichloro-1-fluoroethane (HCFC-141b)
 - 1-chloro-1,1-difluoroethane (HCFC-142b)
 - 1,1,1-trifluoroethane (HFC-143a)
 - 1,1-difluoroethane (HFC-152a)
 - cyclic, branched, or linear, completely fluorinated alkanes
 - cyclic, branched, or linear, completely fluorinated ethers with no unsaturations
 - cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations
 - sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.
 - difluoromethane (HFC-32)
 - 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane ($C_4F_9OCH_3$)
 - 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane
[[$(CF_3)_2CFCF_2OCH_3$]]
 - 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane ($C_4F_9OC_2H_5$)
 - 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane
[[$(CF_3)_2CFCF_2OC_2H_5$]]
 - parachlorobenzotrifluoride (PCBTF)
 - methyl acetate
 - methyl formate
 - propylene carbonate

APPENDIX 6: Propylene Carbonate Process Schematic

7.2. The Jefferson Process

The Jefferson Chemical Co. has developed a process for the commercial production of ethylene carbonate and propylene carbonate [7]. Figure 1 shows the experimental unit in which the process was developed.

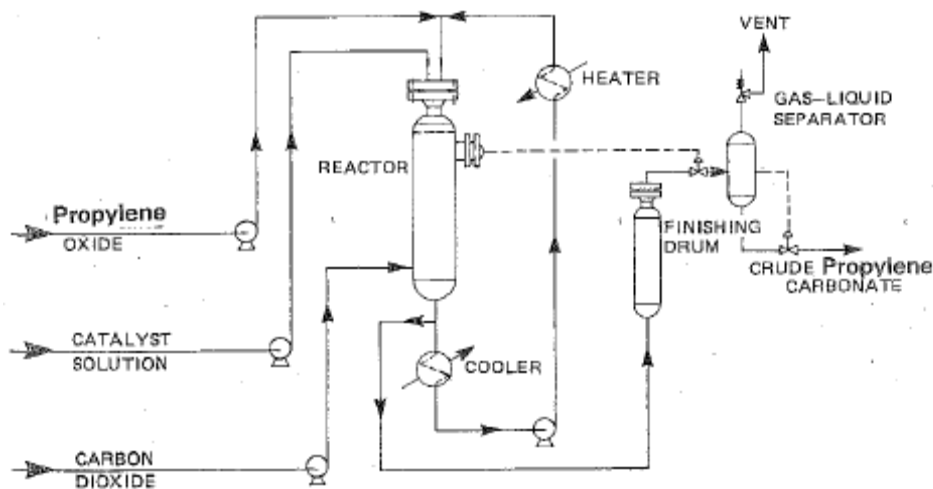


FIG. 1. The Jefferson process.

The conversion takes place in a main reactor and in a smaller after-reactor. Both consist of autoclave-shaped pressure pipes designed for an operating pressure of 105.5 atm. A layer of ceramic Raschig rings acting as a mixing zone is provided in the upper part of the main reactor.

Ethylene oxide or propylene oxide and the catalyst (tetraethyl ammonium bromide, dissolved in the appropriate carbonate) are pumped into the head of the reactor by means of displacement pumps. CO_2 is led to the lower part of the reactor by means of a compressor. An agitator circulates the reaction mixture through a cooler and a heater from the bottom to the top of the reactor. The product flow is led into the after-reactor in which all the unconverted starting material is subjected to a final reaction.

Afterwards, the reaction mixture is expanded into a gas-liquid separator where most of the surplus CO_2 is gassed out. The small amount of undissolved CO_2 which remains and the unconverted ethylene oxide are separated in the storage container arranged downstream.

The crude carbonate is then distilled in a short column with a head section pressure of 4–6 mbar and a transition temperature of about 110°C. Pure ethylene carbonate distills over at the head of the column—normally without any light ends. The crude product is distilled to about 90–95% only and the main part of the bottoms, reconstituted with fresh catalyst, is returned into the catalyst stream. The remainder of the bottoms withdrawn is rejected.

APPENDIX 7: JEFFSOL® AG 1555 Propylene Carbonate TDS



Enriching lives through innovation

Technical Bulletin

JEFFSOL® AG-1555 Carbonate

JEFFSOL® AG-1555 carbonate is 40 CFR 180.950 and List 4A (minimal risk classification) approved for use in agricultural pesticide formulations. It is a clear, mobile, hygroscopic liquid at room temperature. This product is an excellent solvent for many organic and inorganic materials. It offers excellent performance as an adjuvant enhancement agent in agricultural pesticide formulations. JEFFSOL® AG-1555 carbonate can be used as a formulation component for tank mix adjuvants and as a solvent/co-solvent in emulsifiable and microemulsifiable concentrate formulations.

APPLICATIONS	<ul style="list-style-type: none"> • Solvent for pesticide formulations • Veterinary topical formulations 	<ul style="list-style-type: none"> • Component of tank adjuvants • Minimal risk solvent
BENEFITS	<ul style="list-style-type: none"> • High Solvency • Low toxicity • Low odor • High boiling point • High flash point 	<ul style="list-style-type: none"> • Low evaporation rate • Low vapor pressure • Readily biodegradable • VOC Exempt in U.S.

SALES SPECIFICATIONS

<u>Property</u>	<u>Specifications</u>	<u>Test Method*</u>
Appearance	Clear and substantially free of foreign matter	ST-30.1
Color, Pt-Co	40 max.	ST-30.12
Water, wt% ¹	0.1 max.	ST-31.53

¹ Karl Fisher Assay

*Methods of Test are available from Huntsman Corporation upon request.

ADDITIONAL INFORMATION

<u>Regulatory Information</u>		<u>Typical Physical Properties</u>	
EPA Ag Approval	40 CFR 180.950	Boiling point, °C (°F)	242 (468)
DOT/TDG Classification	Not regulated	Density, g/mL, 20°C (68°F)	1.2
HMIS Code	1-1-0	Evaporation rate, 25°C	<0.005
WHMIS Classification	D2B	Flash point, PMCC, °C (°F)	135 (275)
CAS Number	108-32-7	Melting point, °C (°F)	- 48 (-54)
		Vapor pressure, mm Hg, 20°C (68°F)	0.03
		Viscosity (Kinematic), cSt, 43.3°C (110°F)	1.6
		Weight, lb/gal, 20°C (68°F)	10.1
<u>Chemical Control Laws</u>			
Australia, AICS	Listed		
Canada, DSL	Listed		
Europe, EINECS/ELINCS	Listed		
Europe, REACH	Listed		
Japan, METI	Not determined		
United States, TSCA	Listed		

TOXICITY AND SAFETY

For information on the toxicity and safe handling of this product, consult the Material Safety Data Sheet (Safety Data Sheet in Europe) prior to use of this product.

HANDLING AND STORAGE

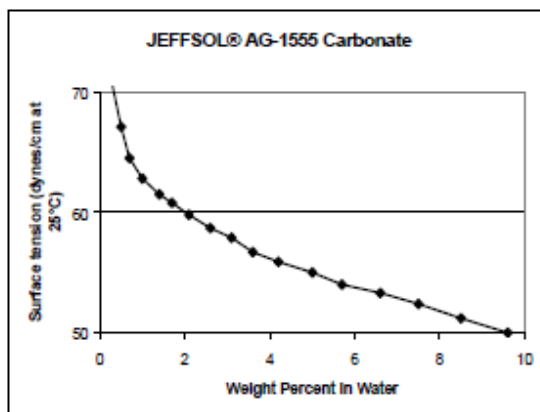
JEFFSOL® AG-1555 carbonate may be satisfactorily stored in carbon steel or stainless steel tanks using steel pipes and pumps. Because of the decomposition potential of carbonates, the tanks should be equipped with pressure relief devices and have an inert gas pad.

Satisfactory pump gasket materials include TEFLON® fluoropolymer, EPR, neoprene, natural rubber, cork and polyethylene. Unsatisfactory gasket materials are BUNA N, HYPALON® chlorosulfonated polyethylene and VITON® fluoroelastomer.

BIODEGRADABILITY AND ENVIRONMENTAL SAFETY

Recent studies indicate that JEFFSOL® AG-1555 carbonate is very readily biodegradable. Values of up to 90% of Theoretical Oxygen Demand (ThOD) are obtained after 15 days at typical concentrations normally observed in waste water treatment plant and higher levels (250-2500 mg/l). Other recent studies indicate biodegradation of >90% after 28 days.

JEFFSOL® AG-1555 carbonate is practically nontoxic to rats by a single oral exposure or to rabbits by a single dermal exposure. This product is minimally irritating to the eyes and skin of rabbits and did not produce dermal sensitization in laboratory animals.



Hansen Solubility Parameter (cal^{1/2} cm^{-3/2})

- Total 13.3
- Dispersive 9.8
- Polar 8.8
- Hydrogen bonding 2.0
- Dipole moment (Debyes 40°C) 4.98

AVAILABILITY

JEFFSOL® AG-1555 is available in tank cars, tank wagons, and drums. Samples are available by contacting our sample department at 1-800-662-0924.

Huntsman Corporation
Business Offices
10003 Woodloch Forest Dr.
The Woodlands, TX 77380
(281) 719-6000

Huntsman Advanced Technology
Center

Technical Service
8600 Gosling Rd.
The Woodlands, TX 77381
(281) 719-7780

Samples 1-800-662-0924

www.huntsman.com

6138-0810

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