1. Product and Company Identification

Product Name: BAYSEAL OC
Material Number: 82614401
Chemical Family: Polyol System

2. Hazards Identification

Emergency Overview

Warning Color: Yellow  Form: liquid viscous  Odor: Amine, ammoniacal.
Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Causes respiratory tract irritation. Causes skin irritation. May be harmful if absorbed through skin. Causes eye irritation. When this product is sprayed, a full-face or hood-type supplied air respirator is required. May be harmful if swallowed. May cause liver damage. May cause kidney damage. May cause adverse reproductive effects.

Potential Health Effects

Primary Routes of Entry: Inhalation, Eye Contact, Skin Contact
Medical Conditions Aggravated by Exposure: Respiratory disorders, Eye disorders, Skin disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation
Acute Inhalation
For Component: Tris-(2-chloroisopropyl)-phosphate
May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

For Component: Surfactant
May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

For Component: Tertiary Amine
May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest. Causes
respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

**Chronic Inhalation**
For Component: **Tertiary Amine**
May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest.

**Skin**
**Acute Skin**
For Component: **Tris-(2-chloroisopropyl)-phosphate**
May cause slight irritation.

For Component: **Surfactant**
May cause irritation with symptoms of reddening and itching. Slightly toxic by skin absorption.

For Component: **Tertiary Amine**
Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.

For Component: **Tertiary Amine**
If sufficient amounts are absorbed, systemic toxicity may occur with symptoms similar to those described in acute inhalation. Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage. May be harmful if absorbed through skin.

**Chronic Skin**
For Component: **Surfactant**
Prolonged or repeated skin contact may cause dermatitis with symptoms of red, itchy, dry skin.

**Eye**
**Acute Eye**
For Component: **Tris-(2-chloroisopropyl)-phosphate**
Not expected to be irritating.

For Component: **Surfactant**
Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause corneal injury.

For Component: **Tertiary Amine**
Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.

**Ingestion**
**Acute Ingestion**
For Component: **Tris-(2-chloroisopropyl)-phosphate**
May be harmful if swallowed. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. Moderately toxic by ingestion.

For Component: **Surfactant**
Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs). Moderately toxic by ingestion.
For Component: **Tertiary Amine**
Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. May be harmful if swallowed.

**Chronic Ingestion**
For Component: **Tris-(2-chloroisopropyl)-phosphate**
May cause liver damage. May cause kidney damage.

**Carcinogenicity:**
No Carcinogenic substances as defined by IARC, NTP and/or OSHA

### 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight percent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 - 35%</td>
<td>Tris-(2-chloroisopropyl)-phosphate</td>
<td>13674-84-5</td>
</tr>
<tr>
<td>10 - 20%</td>
<td>Surfactant</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>5 - 10%</td>
<td>Tertiary Amine</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>1 - 5%</td>
<td>Tertiary Amine</td>
<td>CAS# is a trade secret</td>
</tr>
</tbody>
</table>

### 4. First aid measures

**Eye contact**
In case of contact, flush eyes with plenty of water for at least 15 minutes. Call a physician immediately.

**Skin contact**
In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention.

**Inhalation**
If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

**Ingestion**
If ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

### 5. Firefighting measures

**Suitable extinguishing media:** Carbon dioxide (CO2), Dry chemical, Foam, water spray for large fires.

**Special Fire Fighting Procedures**
Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

**Unusual Fire/Explosion Hazards**
The reaction of this product with polymeric MDI ("A" side) will release heat (e.g., it is an exothermic reaction). Thus, spraying foam too thickly in a single lift, or not allowing sufficient time between lifts, can
result in excessive heat generation to the point where the foam may char, smolder or burn. Refer to the appropriate BaySystems technical datasheet for application instructions.

### 6. Accidental release measures

**Spill and Leak Procedures**
Evacuate and keep unnecessary people out of spill area. Remove ignition sources. Notify management. Put on protective equipment. Control source of the leak. Ventilate. Contain the spill. Cover spill with inert material (e.g., dry sand or earth) and collect for proper disposal.

### 7. Handling and storage

**Storage temperature:**
- **minimum:** 21.11 °C (70 °F)
- **maximum:** 26.67 °C (80 °F)

**Storage period**
6 Months

**Handling/Storage Precautions**
Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Keep container closed when not in use. Material is hygroscopic and may absorb small amounts of atmospheric moisture. If contamination with isocyanates is suspected, do not reseal containers. Do not get on skin or clothing. Do not get in eyes. Do not breathe vapours or spray mist.

**Further Info on Storage Conditions**
Store materials between 70°F to 80°F (21°C to 27°C) in a dry and well ventilated area for a minimum of 48 hours prior to application of material. The transit temperature range is 32°F to 100°F (0°C to 38°C).

### 8. Exposure controls/personal protection

When this product is heated or spray applied, amine vapors can be released.

Country specific exposure limits have not been established or are not applicable

**Industrial Hygiene/Ventilation Measures**
When handling this product, ventilation of the work area is recommended.

**Respiratory protection**
When this product is sprayed in combination with polymeric MDI ("A" side), a full-face or hood-type supplied air respirator operated in the positive pressure or continuous flow mode is required. For exterior spray applications where the use of supplied air respiratory protection may create a safety hazard (e.g., roof applications), an air purifying respirator with combination organic vapor/particulate (P100) cartridges may be substituted for a supplied air respirator. When handling the liquid product, particularly if heated or in a confined area, an air purifying respirator with combination organic vapor/particulate (P100) cartridges is recommended. The respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). When APRs are used, (a) the cartridges must be equipped with end-of-service life indicators (ESLI) certified by NIOSH, or (b) a change out schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be
described in the written respirator program.

**Hand protection**
When this product is sprayed in combination with polymeric MDI ("A" side), fabric gloves coated in nitrile, neoprene, butyl or PVC are recommended. When handling liquid product, nitrile, neoprene, butyl or PVC gloves are recommended.

**Eye protection**
When this product is sprayed in combination with polymeric MDI ("A" side), eye protection will be provided by the full-face or hood-type air supplied respirator as mentioned above in the respiratory protection section. When handling liquid product, chemical safety goggles or safety glasses with side-shields are required.

**Skin and body protection**
When this product is sprayed in combination with polymeric MDI ("A" side), a disposable full body suit (e.g., Tyvek, Kleenguard, etc.) with attached hood and disposable over-boots are required. When handling liquid product, wear cloth work clothing including long pants and long-sleeved shirts. If the potential for splash to the body exists, impermeable protective clothing is recommended.

**Additional Protective Measures**
Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>viscous</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Amine, ammoniacal</td>
</tr>
<tr>
<td>pH</td>
<td>8.5 - 10.5</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>&lt; 0 °C (32 °F)</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>&gt; 149 °C (300.2 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 93.33 °C (200 °F)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.08</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Partially soluble</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>165 - 180 cps @ 25 °C (77 °F)</td>
</tr>
</tbody>
</table>

### 10. Stability and reactivity

**Hazardous Reactions**
Hazardous polymerisation does not occur. The reaction of this product with polymeric MDI ("A" side) will release heat (e.g., it is an exothermic reaction). Thus, spraying foam too thickly in a single lift, or not allowing sufficient time between lifts, can result in excessive heat generation to the point where the foam may char, smolder or burn. Refer to the appropriate BaySystems technical datasheet for application instructions.

**Stability**
Stable

**Materials to avoid**
Oxidizing agents, Isocyanates

**Hazardous decomposition products**
By Fire and Thermal Decomposition: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke, Hydrogen chloride gas, Oxides of phosphorus, Other hazardous decomposition products may be formed.

11. Toxicological information

**Toxicity Data for Tris-(2-chloroisopropyl)-phosphate**

**Acute oral toxicity**
LD50: 632 mg/kg (rat)

**Acute inhalation toxicity**
LC50: > 17,800 mg/l, 1 h (rat, Male/Female)
aerosol

**Acute dermal toxicity**
LD50: > 5,000 mg/kg (rabbit, Male/Female)

**Skin irritation**
Human, Patch Test, No skin irritation
rabbit, No skin irritation

**Eye irritation**
rabbit, Draize, Exposure Time: 24 h, slight irritant

**Sensitisation**
dermal: non-sensitizer (guinea pig, Maximization Test)
dermal: non-sensitizer (Human, Patch Test)

**Repeated dose toxicity**
90 Days, oral: NOAEL: 36 mg/kg, (Rat, male)

**Mutagenicity**
Genetic Toxicity in Vitro:
Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)
Positive and negative results were reported.
Mammalian cell - gene mutation assay: positive (Mouse lymphoma cells (L5178Y/TK), Metabolic Activation: with)
Positive and negative results were reported.

**Toxicity to Reproduction/Fertility**
Other method, inhalation, daily, (rat, male)
Reproductive effects have been observed in animal studies.

**Developmental Toxicity/Teratogenicity**
rat, female, oral, gestation, daily, NOAEL (teratogenicity): > 1%, NOAEL (maternal): > 1%
No Teratogenic effects observed at doses tested., No fetotoxicity observed at doses tested.

**Toxicity Data for Surfactant**

**Acute oral toxicity**
LD50: 1,000 - 1,700 mg/kg (Rat)
LD50: 2,380 mg/kg (Rat)

**Acute dermal toxicity**
LD50: 1.4 - 3 ml/kg (rabbit)

**Skin irritation**
rabbit, Mild skin irritation

**Eye irritation**
rabbit, Severely irritating

**Sensitisation**
dermal: non-sensitizer (Human)

**Repeated dose toxicity**
2 years, oral: NOAEL: 40 mg/kg, (Dog, )
2 years, oral: NOAEL: 200 mg/kg, (Rat, )

**Carcinogenicity**
Rat, oral, 2 years, daily,
Did not show carcinogenic effects in animal experiments.

**Toxicity to Reproduction/Fertility**
Three generation study, oral, (Rat, Male/Female) NOAEL (parental): 200 ppm, NOAEL (F1): 200 ppm, NOAEL (F2): 200 ppm
No effects on Reproductive parameters observed at doses tested.
Other method, oral, (Rat) NOAEL (parental): 2000 ppm,

**Developmental Toxicity/Teratogenicity**
Rat, oral, NOAEL (teratogenicity): 200 ppm, NOAEL (maternal): 200 ppm
Fetotoxicity seen only with maternal toxicity., No Teratogenic effects observed at doses tested.

**Toxicity Data for Tertiary Amine**

**Acute oral toxicity**
LD50: 2,000 - 5,000 mg/kg (rat)

**Acute dermal toxicity**
LD50: 1,000 - 2,000 mg/kg (rabbit)

**Skin irritation**
rabbit, Corrosive

**Eye irritation**
rabbit, Corrosive

**Toxicity Data for Tertiary Amine**

**Acute oral toxicity**
LD50: 1,290 mg/kg (Rat)

**Acute inhalation toxicity**
LC50: > 2.63 mg/l, 1 h (Rat)

**Acute dermal toxicity**
LD50: 310 mg/kg (rabbit)

**Skin irritation**
rabbit, Corrosive
Eye irritation  
rabbit, Corrosive

12. Ecological information

**Ecological Data for Tris-(2-chloroisopropyl)-phosphate**

**Biodegradation**  
Aerobic, 0 %, Exposure time: 28 Days, Not readily biodegradable.

**Bioaccumulation**  
Cyprinus carpio (Carp), Exposure time: 42 Days, ca. 0.8 - 2.8 BCF

**Acute and Prolonged Toxicity to Fish**
LC50: ca. 84 mg/l (Bluegill (Lepomis macrochirus), 96 h)  
LC50: 51 mg/l (Fathead minnow (Pimephales promelas), 96 h)  
LC50: 30 mg/l (Guppy (Poecilia reticulata), 96 h)

**Acute Toxicity to Aquatic Invertebrates**
EC50: ca. 131 mg/l (Water flea (Daphnia magna), 48 h)

**Toxicity to Aquatic Plants**
EC50: 45 mg/l, End Point: biomass (Green algae (Scenedesmus subspicatus), 72 h)  
EC50: 41 - 55 mg/l, End Point: biomass (Green algae (Selenastrum capricornutum), 96 h)

**Toxicity to Microorganisms**
EC50: 295 mg/l, (Photobacterium phosphoreum, 30 min)  
EC50: 784 mg/l, (Activated sludge microorganisms, 3 h)

**Ecological Data for Surfactant**

**Biochemical Oxygen Demand (BOD)**
11 - 23 %  
20 Days, 45 - 48 %

**Theoretical Biological Oxygen Demand (ThBOD)**
2,300 mg/g

**Acute and Prolonged Toxicity to Fish**
LC50: 5 - 7.3 mg/l (Fathead minnow (Pimephales promelas), 96 h)

**Acute Toxicity to Aquatic Invertebrates**
LC50: 7.5 - 14.7 mg/l (Water flea (Daphnia magna), 48 h)

**Toxicity to Microorganisms**
IC50: > 1,000 mg/l, (Other bacteria, 17 h)

**Ecological Data for Tertiary Amine**

**Additional Ecotoxicological Remarks**
No data available for this component.

**Ecological Data for Tertiary Amine**

**Additional Ecotoxicological Remarks**
No data available for this component.
13. Disposal considerations

Waste Disposal Method
Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions
Recondition or dispose of empty container in accordance with governmental regulations.

14. Transport information

Land transport (DOT)
Non-Regulated

Sea transport (IMDG)
Non-Regulated

Air transport (ICAO/IATA)
Non-Regulated

15. Regulatory information

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):
Components
None

SARA Section 311/312 Hazard Categories:
Acute Health Hazard, Chronic Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):
Components
None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:
Components
None

Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

State Right-To-Know Information
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

**Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:**

<table>
<thead>
<tr>
<th>Weight percent</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 - 35%</td>
<td>Tris-(2-chloroisopropyl)-phosphate</td>
<td>13674-84-5</td>
</tr>
<tr>
<td>&gt;=1%</td>
<td>Water</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>&gt;=1%</td>
<td>Polyether Polyol</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>10 - 20%</td>
<td>Surfactant</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>&gt;=1%</td>
<td>Polyether Polyol</td>
<td>CAS# is a trade secret</td>
</tr>
</tbody>
</table>

**California Prop. 65:**

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

### 16. Other information

#### NFPA 704M Rating

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

#### HMIS Rating

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2*</td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

* = Chronic Health Hazard

The method of hazard communication for Bayer MaterialScience LLC is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Bayer MaterialScience LLC as a customer service.

Contact person: Product Safety Department
Telephone: (412) 777-2835
MSDS Number: 112000042275
Version Date: 01/31/2013
Report version: 3.2

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge of Bayer MaterialScience LLC. The information in this MSDS relates only to the specific material designated herein. Bayer MaterialScience LLC assumes no legal responsibility for use of or reliance upon the information in this MSDS.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.