SAFETY DATA SHEET
U.S. Department of Labor
Occupational Safety & Health Administration

Polagard AG - Part B

SECTION 1 - IDENTIFICATION

MANUFACTURER:	Andek Corporation
ADDRESS:	850 Glen Avenue, Moorestown, NJ 08057
TELEPHONE:	1-856-786-6900
	In an emergency, contact CHEMTREC 1-800- 424-9300;
	Outside the United States call +1-703-527-3887
PRODUCT IDENTIFIER:	Polagard AG - Part B
RECOMMENDED USE:	Anti-Graffiti Coating

SECTION 2 – HAZARD IDENTIFICATION

Skin: Slightly irritating.
Eyes: May cause eye irritation
Inhalation: High vapor concentrations are irritating to the respiratory tract.
Ingestion: **Do Not** ingest. Aspiration during ingestion or vomiting may cause pulmonary injury.

SIGNAL WORD: Warning

HAZARD STATEMENTS:

- Flammable liquid and vapor.
- May be harmful if swallowed and enters airways.
- Causes mild skin irritation.
- Causes eye irritation.
- May be harmful if inhaled.

PICTOGRAMS:

PRECAUTIONARY STATEMENTS:

Prevention:

- **Do Not** handle until all safety precautions have been read and understood.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep container tightly closed.
- Avoid breathing mist, vapors or spray.
- **Do Not** get in eyes, on skin, or on clothing.
- Wash thoroughly after handling.
- **Do Not** eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Use explosion-proof electrical/ventilating/light/equipment.
- Take precautionary measures against static discharge.

Response:

- **Skin:** Wash with plenty of water.
- **Eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do and continue rinsing.
- **Inhalation:** Remove person to fresh air and keep comfortable for breathing.
- **Ingestion:** Rinse mouth. **Do Not** induce vomiting

Storage:

- Store in a well ventilated place. Keep container tightly closed.
- Store at temperature between 40ºF and 90ºF.

Disposal:

- Waste disposal should be in accordance with existing federal, state and local environmental control laws.
- Incineration is the preferred method.

SECTION 3 – COMPOSITION

CHEMICAL NAME	CAS #	APPROX %
Polyester Polyol	Trade Secret	45.0
Propylene Glycol Monomethyl Ether Acetate	108-65-6	13.0
Xylene	1330-20-7	5.0
Ethyl Benzene	100-41-4	2.0
Bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate	41556-26-7	0.5
Phenol, 2-(2H-Benzotriazol-2-yl)-4,6-bis(1-methyl-1-phenylethyl)	70321-86-7	0.5
Dimethyl Carbonate	616-38-6	34.0

SECTION 4 – FIRST AID MEASURES

Skin:

- Get medical aid.
- Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing/shoes.

Eyes:

- Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
- If irritation persists, seek medical attention.

Inhalation:

- Remove person to fresh air.
- If signs/symptoms continue, get medical attention.
- Give oxygen or artificial respiration as needed.

Ingestion:

- **Do Not** induce vomiting.
- If vomiting does occur, have victim lean forward to prevent aspiration.
- Rinse mouth with water.
- Seek medical attention.
- Never give anything by mouth to an unconscious individual.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

- **Small fire**: Use dry chemicals, CO^2, water spray or alcohol-resistant foam.
- **Large fire**: Use water spray, water fog or alcohol-resistant foam. Cool all affected containers with flooding quantities of water.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

- Carbon oxides expected to be the primary hazardous combustion product.

Special protective equipment and precautions for firefighters:

- Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- Keep unopened containers cool by spraying with water.

Hazardous Combustion Products: Carbon dioxide, carbon monoxide, smoke, fumes, and unburned hydrocarbons

Flammable Properties Classification: OSHA/NFPA Class II Combustible Liquid.

Flash point: 98 °F (37 °C)

Auto ignition temperature: 471 °C (880 °F)

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

- **Do Not** inhale vapors, mist or gas.
- Ensure adequate ventilation.
- Remove all sources of ignition.
- Evacuate personnel to safe areas.
- Beware of vapors accumulating to form explosive concentrations.
- Vapors can accumulate in low areas.

Environmental precautions:

- Stop leak.
- Contain spill if possible and safe to do so.
- Prevent product from entering drains.

Methods and materials for containment and cleaning up:

- Absorb with an inert dry material and place in an appropriate waste disposal container.
- Keep disposal containers closed when finished.

SECTION 7 – HANDLING & STORAGE

Precautions for safe handling:

- **Do not** get on skin or in eyes.
- **Do not** inhale vapor or mist.
- Keep away from sources of ignition - No smoking.
- Take measures to prevent the buildup of electrostatic charge.
- Open and handle container with care.
- Metal containers involved in the transfer of this material should be grounded and bonded.

Recommendations on the conditions for safe storage:

- Store in a tightly closed container and keep in a cool, dry, well-ventilated place.
- Keep container away from extreme heat and strong oxidizing agents.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION:

Exposure limits:

CHEMICAL NAME	TWA	PEL	STEL
Propylene Glycol Monomethyl Ether Acetate	100 ppm	N/A	150 ppm
Xylene	100 ppm	100 ppm, 435 mg/m³	150 ppm
Ethyl Benzene	20 ppm	100 ppm, 435 mg/m³	125 ppm
Dimethyl Carbonate	100 ppm	100 ppm	N/A

Engineering controls:

- Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits (see below).
- An eye wash station and safety shower should be located near the work-station.

Individual protection measures:

- Personal protective equipment should be selected based upon the conditions under which this material is used.
- A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations.

Inhalation protection:

- The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation.
- If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used.
- Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

Eye protection:

- Safety glasses equipped with side shields are recommended as minimum protection in industrial settings.
- Wear goggles if splashing or spraying is anticipated.
- Wear goggles and face shield if material is heated above 125°F (51°C).
- Have suitable eye wash water available.

Skin and body protections:

- None required for incidental contact.
- Use gloves constructed of chemical resistant materials such as heavy nitrile rubber if frequent or prolonged contact is expected.
- Use heat-protective gloves when handling product at elevated temperatures.
- Use clean protective clothing if splashing or spraying conditions are present.
- Protective clothing may include long-sleeve outer garment, apron, or lab coat.
- If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower.
- Launder contaminated clothing before reuse or discard.
- Wear heat protective boots and protective clothing when handling material at elevated temperatures.

Other hygienic practices and protective equipment:

- Use good personal hygiene practices.
- Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities, or leaving work.
- **Do Not** use gasoline, kerosene, solvents or harsh abrasives as skin cleaners.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Clear, Newtonian liquid
Physical state: Liquid
Color: Transparent
Odor: Sweet, fruity odor
Odor threshold: None established
pH: None established
Melting point/freezing point: 4ºC
Initial boiling point and boiling range: 90ºC to 138ºC
Flash point: 98ºF (37ºC)
Evaporation rate: 0.2 (butyl acetate = 1)
Flammability: Flammable
Upper/lower flammability or explosive limits: (by volume) 13.1% / 1.0%
Vapor pressure: 42mmHg@20ºC
Vapor density: 1.15 g/cm³@20ºC
Relative density: 1.15kg/l
Solubility: Immiscible with water
Partition coefficient: n-octanol/water: None established
Auto-ignition temperature: 458ºC (856ºF)
Decomposition temperature: None established
Viscosity: 1,500 centipoise @20ºC

SECTION 10 – STABILITY AND REACTIVITY

Hazardous Polymerization: Not expected to occur.

Chemical stability: Stable.

Incompatibility: Strong oxidizers.

Hazardous decomposition products: No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.

Conditions to avoid: Keep away from extreme heat, sparks, open flame, and strongly oxidizing conditions.

SECTION 11 – TOXICOLOGICAL INFORMATION

The following information regarding health hazards is based upon third-party research studies.

Effects of Acute Exposure:
Inhalation: Inhalation of dust or mist can cause irritation of the eyes, nose, throat, and lungs.

Eye Contact: Like any foreign body, particles can cause mechanical irritation.

Skin Contact: This material can cause irritation if not promptly washed from the skin. This product is not expected to be absorbed through intact skin.

Ingestion: Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury.

Effects of Chronic Exposure:
Ethyl Benzene:

- In mice, there was an increased incidence of lung adenomas in males and liver adenomas in females.
- In male rats, there was an increased incidence of renal tubule adenomas and carcinomas.
- Two studies of workers potentially exposed to ethyl benzene in a production plant and a styrene polymerization plant showed no excess cancer incidence and no excess cancer mortality during a 15-year follow-up.

Dimethyl Carbonate:

- Rats exposed to up to 5,000 mg/kg showed clinical signs of hypoactivity, ataxia, redness around the eyes and nose, and loss of righting reflex. Duration of exposure was not reported.
- Separately, the primary expected metabolite of this compound is expected to be methanol. Methanol has been shown to be poorly tolerated in man with over exposure resulting in serious effects including central nervous system effects, blindness, and possibly death. These adverse effects have been reported even at low levels of methanol exposure.

Numerical measures of toxicity:

CHEMICAL NAME	Oral LD50 (rat)	Dermal LD50 (rat)	Inhalation LC50 (rat)
Propylene Glycol Monomethyl Ether Acetate	>5,000 mg/kg	>5,000 mg/kg	>23.8 mg/l, 6 hr.
Xylene	4,300 mg/kg	4,350 mg/kg (rabbit)	5,000 ppm, 4 hr.
Ethyl Benzene	3,500 mg/kg	17,800 mg/kg (rabbit)	17.2 mg/l, 4 hr.
Dimethyl Carbonate	12,900 mg/kg	>2,500 mg/kg	>140 mg/l

Symptoms associated with exposure: May be fatal if swallowed and enters airways.

Chemical listed in NTP or IARC? No mutagenic or teratogenic effects observed at doses tested.

SECTION 12 – ECOLOGICAL INFORMATION

Data from toxicity test:

CHEMICAL NAME	Algae/Aquatic Plants (EC50)	Fish (LC50)	Toxicity to Microorganism	Crustacea (Aquatic Invertebrates)
Polyester Polyol	N/A	N/A	N/A	N/A
Propylene Glycol Monomethyl Ether Acetate	> 1,000 mg/l, (Pseudokirchneriella subcapitata (green algae), 72 h)	161 mg/l (Fathead minnow (Pimephales promelas), 96 h) > 100 mg/l (Oryzias latipes (Orange-red killifish), 96 h)	EC20: > 1,000 mg/l, (activated sludge, 0.5 h)	EC50: 408 mg/l (Water flea (Daphnia magna), 48 h) EC50: > 500 mg/l (Daphnia magna (Water flea), 48 h)
Xylene	10 mg/l, End Point: growth (other: algae, 72 h)	13.5 - 17.3 mg/l (Rainbow (Donaldson)Trout (Oncorhynchus mykiss), 96 h)	N/A	600 ug/L (Gammarus sp., 48 h)
Ethyl Benzene	4.6 mg/l, (Green algae (Selenastrum capricornutum), 72 h)	4.2 mg/l (Rainbow (Donaldson)Trout (Oncorhynchus mykiss), 96 h) 12.1 mg/l (Fathead minnow (Pimephales promelas), 96 h)	**EC50**: 130 mg/l, (activated sludge microorganisms, 48 h) **EC50**: 9.68 ppm, (Photobacterium phosphoreum, 30 min)	EC50: 1.8 - 2.9 mg/l (Water flea (Daphnia magna), 48 h)
Dimethyl Carbonate	9 mg/lt, 96 h	NOEC 50: 1,000 mg/lt (96 h)	Ec50: >1,000 mg/lt	LC50: 2,920 mg/lt (48 h)

Biodegradation/Bioaccumulation/BOD/COD:

CHEMICAL NAME	Biodegradation	Bioaccumulation	BOD	COD
Polyester Polyol	N/A	N/A	N/A	N/A
Propylene Glycol Monomethyl Ether Acetate	> 90 %, Exposure time: 28 d, i.e. readily biodegradable Aerobic, 100 %, Exposure time: 8 d, i.e. degradable	N/A	N/A	N/A
Xylene	N/A	N/A	5 Days, 80 %	83 mg/g
Ethyl Benzene	Aerobic, 50 %, Exposure time: 28 Days	Cyprinus carpio (Carp) 15 BCF	5 Days, 2.8% 35 Days, 1,780 mg/g	N/A
Dimethyl Carbonate	>90% after 28 days under OECD 301C Readily Biodegradable	No Bioaccumulation BCF estimated to be 3.16	N/A	N/A

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal Method:

- Waste disposal should be in accordance with existing federal, state and local environmental control laws.
- Incineration is the preferred method.

Empty Container Precautions:

- Empty containers retain product residue; observe all precautions for product.
- **Do Not** heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed.
- **Do Not** reuse without thorough commercial cleaning and reconditioning.
- If container is to be disposed, ensure all product residues are removed prior to disposal.

SECTION 14 – TRANSPORT INFORMATION

UN #	1263
UN PROPER SHIPPING NAME:	Paint
HAZARD CLASS:	3
PACKING GROUP:	III
ENVIRONMENTAL HAZARDS:	Not a marine pollutant.
GUIDANCE ON TRANSPORT IN BULK:	N/A

Transport labels required: Flammable liquid (In the U.S., this material may be re-classified as a combustible liquid and is not regulated in containers less than 119 gallons via surface transportation.)

SECTION 15 – REGULATORY INFORMATION

US Federal Regulation:
SARA 311/312 Hazard Categories

CHEMICAL NAME	CWA reportable quantities	CWA Toxic Pollutants	CWA Priority Pollutants	CWA Hazardous Substances	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity RQ
Xylene	N/A	Listed	N/A	Chronic Health Hazard	Acute	N/A	N/A
Ethyl Benzene	1,000 lbs	Listed	N/A	Chronic Health Hazard	Acute	Required	1,000 lbs

US State Right to Know Regulations: New Jersey, Massachusetts, Pennsylvania, Rhode Island

CHEMICAL NAME	CAS #
Xylene	1330-20-7
Ethyl Benzene	100-41-4
Propylene Glycol Monomethyl Ether Acetate	108-65-6

CA Prop 65

CHEMICAL NAME	CAS#
Ethyl Benzene	100-41-4

SECTION 16 – OTHER INFORMATION (HMIS RATING)

Health	1
Flammability	2
Physical Hazard	0
Personal Protection	G

Disclaimer: Andek Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the issue date of this Safety Data Sheet (SDS). However, because the conditions of handling, use, and storage of these materials are beyond Andek Corporation's control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials and makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations contained in the SDS are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and data and to comply with all applicable international, federal, state and local laws and regulations.
