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SAFETY DATA SHEET

PDC-1100

SECTION 1 - IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

DISTRIBUTED BY: Crown Products & Services, Inc.
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PRODUCT NAME: PDC-1100

TYPE OF PRODUCT: Mixture

RECOMMENDED USE: Processing aid for industrial applications.

SECTION II - HAZARDS IDENTIFICATION

CLASSIFICATION: Eye Damage

SIGNAL WORD: Danger

HAZARD STATEMENT(S): Causes serious eye damage

Pictograms

Serious Eye Damage

PRECAUTIONARY STATEMENT(S):

Prevention: Wear eye protection/ face protection

Response: If in eyes, rinse cautiously with water for several minutes.
Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a Poison Control or Doctor, Physician.

OTHER HAZARDS: None

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SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURES

Hazardous Components	Concentration/ -range	CAS #
Alkaryl sulfonates	< 10%	Confidential
Alkylated benzene, sulfonated	< 10%	Confidential
Alkylphenol ethoxylates	< 5%	Confidential
D-Limonene	< 1%	5989-27-5

Note: The specific chemical identity and/or exact concentration of composition has been withheld as a trade secret.

SECTION IV - FIRST AID MEASURES

INHALATION: If inhaled, immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT: Wash off immediately with plenty of water. Get medical attention if irritation develops and persists.

EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

INGESTION: Consult a physician. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

MOST IMPORTANT SYMPTOMS AND EFFECTS, ACUTE/DELAYED: Risk of serious damage to eyes. May cause skin irritation in susceptible persons. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

OTHER INFORMATION: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Take off all contaminated clothing immediately.

SECTION V - FIREFIGHTING MEASURES

EXTINGUISHING MEDIA: Water spray, Dry powder, Foam or Carbon dioxide (CO2). Do not use high volume water jet, as it may spread fire.

SPECIAL HAZARDS: Thermal decomposition may produce: carbon oxides (COx). Sulfur oxides (SOx).

ADVICE FOR FIRE-FIGHTERS: Protective measures: Wear self contained breathing apparatus for fire fighting if necessary.

OTHER INFORMATION: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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SECTION VI - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Avoid contact with skin and eyes. Use personal protective equipment.

PROTECTIVE EQUIPMENT: Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

EMERGENCY PROCEDURES: Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

ENVIRONMENTAL PRECAUTIONS: As with all chemical products, do not flush into surface water.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Small Spills: Do not flush with water. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large Spills: Do not flush with water. Soak up with inert absorbent material. Shovel into suitable container for disposal.

Residues: After cleaning, flush away traces with water.

SECTION VII - HANDLING AND STORAGE

HANDLING: Avoid contact with skin and eyes. Use personal protective equipment.

STORAGE: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Incompatible with oxidizing agents.

SPECIFIC END USE(S): Processing aid for industrial applications.

SECTION VIII - EXPOSURE CONTROL/PERSONAL PROTECTION

VENTILATION: Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists. Ensure adequate ventilation, especially in confined areas.

EYE PROTECTION: Safety glasses with side-shields. Tightly fitting safety goggles.

SKIN/HAND PROTECTION: Wear appropiate clothing and/or chemical apron and rubber footwear where skin contact is possible. Impervious gloves. Be aware that liquid may permeate gloves, frequent change is advised. Suitable gloves can be recommended by the glove supplier.

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required. In case of insufficient ventilation wear suitable respiratory equipment.

ADDITIONAL ADVICE: Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

ENVIRONMENTAL EXPOSURE CONTROLS: Do not allow uncontrolled discharge of product into the environment.

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SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	**Liquid, Clear, Blue.**
Odor:	**Mild Citrus**
Odour Threshold:	**No data available**
pH:	**No data available**
Melting point/freezing point:	**No data available**
Initial boiling point& boiling range:	**> 100°C**
Flashpoint:	**> 100°C**
Evaporation Rate:	**< 1 (ethyl ether = 1)**
Flammability (solid, gas):	**Not applicable**
Upper/lower flammability or explosive limits:	**Not expected to create explosive atmospheres.**
Vapor Pressure:	**No data available**
Vapor Density:	**No data available**
Relative Density:	**1.0 - 1.1**
Solubility in Water:	**Completely miscible**
Partition coefficient:	**Not applicable**
Autoignition temperature:	**No data available**
Decomposition temperature:	**No data available**
Viscosity:	**No data available**
Explosive properties:	**Not expected to be explosive based on the chemical structure.**
Oxidizing properties:	**Not expected to be oxidising based on the chemical structure.**

SECTION X - STABILITY AND REACTIVITY

REACTIVITY:	Stable at normal conditions.
CHEMICAL STABILITY:	Stable at normal ambient temperature and pressure.
POSSIBILITY OF HAZARDOUS REACTIONS:	None known
CONDITIONS TO AVOID:	Keep away from heat and sources of ignition.
CHEMICAL INCOMPATIBILITY:	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS:	Thermal decomposition may produce: carbon oxides (COx). Sulfur oxides (SOx).

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SECTION XI - TOXICOLOGICAL INFORMATION

ACUTE ORAL TOXICITY: LD50/oral/rat > 5000 mg/kg (Estimated)

ACUTE DERMAL TOXICITY: LD50/dermal/rat > 5000 mg/kg (Estimated)

ACUTE INHALATION TOXICITY: The product is not expected to be toxic by inhalation.

SKIN CORROSION/IRRITATION: May cause skin irritation with susceptible persons.

SERIOUS EYE DAMAGE/EYE IRRITATION: Risk of serious damage to eyes.

RESPIRATORY/SKIN SENSITISATION: The product contains a small amount of sensitising substances which may provoke an allergic reaction among sensitive individuals in contact with skin.

MUTAGENICITY: Based on available data, product is not expected to be mutagenic.

CARCINOGENICITY: Based on available data, product is not expected to be carcinogenic.

REPRODUCTIVE TOXICITY: Based on available data, product is not expected to be toxic for reproduction. (OECD 406)

STOT - SINGLE EXPOSURE: No known effects

STOT - REPEATED EXPOSURE: No known effects

ASPIRATION HAZARD: No hazards resulting from the material as supplied.

RELEVANT INFORMATION ON THE HAZARDOUS COMPONENTS:

Component	Species	Test Results
Acute-Toxicity: ***Alkaryl sulfonates***		
Oral Toxicity LD50	Rat	1080 mg/kg
Dermal Toxicity LD50	Rat	> 2000 mg/kg
Inhalation Toxicity	The product is not expected to be toxic by inhalation.	

Skin corrosion/irritation: Irritating to skin.

Serious eye damage/eye irritation: Risk of serious damage to eyes.

Respiratory/skin sensitisation: By analogy with similar products, this product is expected to be sensitizing. (OECD 406).

Mutagenicity: By analogy with similar products, this product is not expected to be mutagenic.

Carcinogenicity: By analogy with similar products, this product is not expected to be carcinogenic.

Reproductive toxicity: By analogy with similar substances, this substance is not expected to be toxic for reproduction.

STOT - single exposure: No known effects.

STOT - repeated exposure: By analogy with similar products, this product is not expected to demonstrate chronic toxic effects.

Aspiration hazard: No known effects.

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RELEVANT INFORMATION ON THE HAZARDOUS COMPONENTS: (continued)

Component	Species	Test Results
Acute-Toxicity: ***Alkylated benzene, sulfonated***		
Oral Toxicity LD50	Rat	> 7000 mg/kg (OECD 401)*
Dermal Toxicity LD50	Rabbit	> 2000 mg/kg (OECD 402)*
Inhalation Toxicity LC50	4 h/rat	> 6.41 mg/L*

**Based on results obtained from tests on analogous products*

Skin corrosion/irritation: Slightly irritating. (OECD 404)
(Based on results obtained from tests on analogous products)

Serious eye damage/eye irritation: Irritating to eyes. (OECD 405)
(Based on results obtained from tests on analogous products)

Respiratory/skin sensitisation: Not sensitizing to skin. (OECD 406)
(Based on results obtained from tests on analogous products)

Mutagenicity: Not mutagenic. (EPA OTS 798.5265, EPA OPPTS 870.5300, EPA OPPTS 870.5375, EPA OPPTS 870.5900) By analogy with similar products, this product is not expected to be mutagenic. (OECD 474)

Carcinogenicity: Carcinogenicity study in rat (OCDE 453): NOAEL > = 240 mg/kg/day

Reproductive toxicity: NOAEL/Maternal toxicity/rat > 936 mg/kg/day
NOAEL/Developmental toxicity/rat > 936 mg/kg/day
By analogy with similar substances, this substance is not expected to be toxic for reproduction.

STOT - single exposure: No known effects.

STOT - repeated exposure: NOAEL/oral/rat/90 days = 763 - 3534 mg/kg/day (OECD 408)

Aspiration hazard: No known effects.

Component	Species	Test Results
Acute-Toxicity: ***Alkylphenol ethoxylates***		
Oral Toxicity LD50	Rat	960 - 3980 mg/kg
Dermal Toxicity LD50	Rabbit	2000 - 2991 mg/kg
Inhalation Toxicity LC50	3.87 h/rat	1.15 mg/L

Skin corrosion/irritation: May cause slight irritation.

Serious eye damage/eye irritation: Risk of serious damage to eyes.

Respiratory/skin sensitisation: Did not cause allergic skin reactions when tested in humans.

Mutagenicity: In vitro tests did not show mutagenic effects.

Carcinogenicity: Animal testing did not show any carcinogenic effects.

Reproductive toxicity: No toxicity to reproduction.

STOT - single exposure: No known effects.

STOT - repeated exposure: No known effects.

Aspiration hazard: No known effects.

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RELEVANT INFORMATION ON THE HAZARDOUS COMPONENTS: (continued)

Component	Species	Test Results
Acute-Toxicity: ***D-Limonene***		
Oral Toxicity LD50	Rat	> 2000 mg/kg (OECD 423)*
Dermal Toxicity LD50	Rabbit	> 5000 mg/kg (OECD 402)
Inhalation Toxicity LC50	The product is not expected to be toxic by inhalation.	

**Based on results obtained from tests on analogous products*

Skin corrosion/irritation: Moderately irritating to the skin. (OECD 404)

Serious eye damage/eye irritation: Not irritating. (OECD 405)

Respiratory/skin sensitisation: Sensitizing to skin. (OECD 429)

Mutagenicity: Negative in the Ames Test (OECD 471). Negative in the In Vitro Mammalian Chromosome Aberration Test (OECD 473). Negative in the In vitro Mammalian Cell Gene Mutation Test (OECD 476). Not mutagenic. (OECD 479)

Carcinogenicity: Not carcinogenic. (OECD 451)

Reproductive toxicity: Not toxic for reproduction.

STOT - single exposure: No known effects.

STOT - repeated exposure: NOAEL/oral/rat/90 days = 600 mg/kg/day (OECD 408)
NOAEL/oral/rat/28 days = 825 mg/kg/day (OECD 407)

Aspiration hazard: May be fatal if swallowed and enters airways.

SECTION XII - ECOLOGICAL INFORMATION

Toxicity: Toxic to aquatic life.

Components	Species	Test Results
Acute-Toxicity to Fish		
Fish LC50	Fish	96 hours = 10 - 20 mg/L (Estimated)
Invertebrates EC50	Daphnia magna	48 hours = 10 - 30 mg/L. (Estimated)
Algae IC50	Algae	72 hours > 100 mg/L (Estimated)
Chronic-Toxicity to Fish and Invertebrates		
Harmful, may cause long-term adverse effects in the aquatic environment.		

Toxicity to microorganisms: No data available
Effects on terrestrial organisms: No data available
Sediment toxicity: No data available

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SECTION XII - ECOLOGICAL INFORMATION (continued)

HAZARDOUS COMPONENTS TESTED:

Component	Species	Test Results
Acute-Toxicity: ***Alkaryl sulfonates***		
Fish LC50	Lepomis macrochirus	96 hours = 1.67 mg/L
Invertebrates EC50	Daphnia magna	48 hours = 2.9 mg/L
Algae IC50	Algae	96 hours = 29 mg/L
Chronic-Toxicity: ***Alkaryl sulfonates***		
Fish NOEC	Oncorhynchus mykiss	72 days = 0.23 mg/L
Invertebrates NOEC	Daphnia magna	21 days = 1.41 mg/L

Toxicity to microorganisms: No data available
Effects on terrestrial organisms: No data available
Sediment toxicity: No data available

Component	Species	Test Results
Acute-Toxicity: ***Alkylated benzene, sulfonated***		
Fish LC50	Oncorhynchus mykiss	96 hours > 1000 mg/L (EPA OTS 797.1400)
Invertebrates EC50	Daphnia magna	48 hours > 1000 mg/L (EPA OTS 797.1300)
Algae IC50	Pseudokirchneriella subcapitata	96 hours >= 230 mg/L (EPA OTS 797.1050)
Chronic-Toxicity: ***Alkylated benzene, sulfonated***		
Fish: No data available		
Invertebrates: No data available		

Toxicity to microorganisms: EC10/activated sludge/3 hours >= 1000 mg/L (OECD 209)
(Based on results obtained from tests on analogous products)
Effects on terrestrial organisms: No data available
Sediment toxicity: No data available

Component	Species	Test Results
Acute-Toxicity: ***Alkylphenol ethoxylates***		
Fish LC50	Pimephales promelas	96 hours = 3.8 - 6.2 mg/L
Invertebrates EC50	Daphnia magna	48 hours = 9.3 - 21.4 mg/L
Algae: No data available		
Chronic-Toxicity: ***Alkylphenol ethoxylates***		
Fish: No data available		
Invertebrates: No data available		

Toxicity to microorganisms: EC50/activated sludge/16 hours > 1000 mg/L
Effects on terrestrial organisms: No data available
Sediment toxicity: No data available

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SECTION XII - ECOLOGICAL INFORMATION (continued)

HAZARDOUS COMPONENTS TESTED: (continued)

Component	Species	Test Results
Acute-Toxicity: ***D-Limonene***		
Fish LC50	Pimephales promelas	96 hours = 0.72 mg/L (OECD 203)
Invertebrates EC50	Daphnia magna	48 hours = 0.36 mg/L (OECD 202)
Algae IC50	Desmodesmus subspicatus	72 hours = 8 mg/L (OECD 201)*
Chronic-Toxicity: ***D-Limonene***		
Fish: No data available		
Invertebrates: NOEC	Daphnia	16 days = 0.115 mg/L

**Based on results obtained from tests on analogous products*

Toxicity to microorganisms: EC50/activated sludge/3 hours = 209 mg/L (OECD 209)
Effects on terrestrial organisms: No data available
Sediment toxicity: No data available

PERSISTENCE AND DEGRADABILITY:

Degradation: Expected to be biodegradable
Hydrolysis: No data available
Photolysis: No data available

RELEVANT INFORMATION ON HAZARDOUS COMPONENTS:

Alkaryl sulfonates:
Degradation: Readily biodegradable.
Hydrolysis: No data available
Photolysis: No data available

Alkylated benzene, sulfonated:
Degradation: Readily biodegradable.
99.8% / 28 days (OECD 301 B])
Hydrolysis: No data available
Photolysis: No data available

Alkylphenol ethoxylates:
Degradation: Not readily biodegradable.
< 60% / 28 days (OECD 301 B)
Hydrolysis: No data available
Photolysis: No data available

D-Limonene:
Degradation: Readily biodegradable.
80% / 28 days (OECD 301 D)
Hydrolysis: No data available
Photolysis: Half-life: 0.015 - 0.037 days

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SECTION XII - ECOLOGICAL INFORMATION (continued)

BIOACCUMULATIVE POTENTIAL: The product is not expected to bioaccumulate.

Partition co-efficient (Log Pow): Not applicable
Bioconcentration factor (BCF): No data available

RELEVANT INFORMATION ON HAZARDOUS COMPONENTS:

Alkaryl sulfonates
Partition co-efficient (Log Pow): 1.96
Bioconcentration factor (BCF): No data available

Alkylated benzene, sulfonated
Partition co-efficient (Log Pow): -3.12 @ 20°C, pH 11.96 (OECD 107)
Bioconcentration factor (BCF): < 2.3

Alkylphenol ethoxylates
Partition co-efficient (Log Pow): 2.1 - 3.4
Bioconcentration factor (BCF): 5.9 - 48

D-Limonene
Partition co-efficient (Log Pow): 4.4 @ 37°C, pH 7 (OECD 117)
Bioconcentration factor (BCF): 361 - 1022 L/kg

MOBILITY IN SOIL: No data available

RELEVANT INFORMATION ON HAZARDOUS COMPONENTS:

Alkaryl sulfonates No data available

Alkylated benzene, sulfonated No data available

Alkylphenol ethoxylates No data available

D-Limonene 1120 - 6324

OTHER ADVERSE EFFECTS: None known

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SECTION XIII - DISPOSAL INFORMATION

WASTE DISPOSAL METHOD: Dispose in accordance with local and national regulations.

CONTAMINATED PACKAGING: If recycling is not practicable, dispose of in compliance with local regulations.

RECYCLING: In accordance with local and national regulations.

SECTION XIV - TRANSPORTATION INFORMATION

LAND TRANSPORT (DOT) Not Classified

SEA TRANSPORT (IMDG) Not Classified

AIR TRANSPORT (IATA) Not Classified

SECTION XV - REGULATORY INFORMATION

NFPA RATING:	Health:	3	**HMIS RATING:**	Health:	3
	Flammability:	1		Flammability:	1
	Instability:	0		Physical Hazard	0
				PPE:	B

TSCA: All components of this product are either listed on the inventory or are exempt from listing.

US SARA (Section 311/312): Acute

SARA(Section 313): None

RCRA: Not RCRA hazardous.

CALIFORNIA PROP 65 Not concerned.

INFO:

SECTION XVI - OTHER INFORMATION

ABBREVIATIONS AND SYMBOLS: **< Less Than** **> More Than**

PREPARED IN ACCORDANCE WITH: U.S. Code of Federal Regulations 29 CFR 1910.1200

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End of Safety Data Sheet