### Material Safety Data Sheet

**p-Chloranil MSDS**

<table>
<thead>
<tr>
<th>Section 1: Chemical and Company Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Name:</strong></td>
</tr>
<tr>
<td><strong>Catalog Codes:</strong></td>
</tr>
<tr>
<td><strong>CAS #:</strong></td>
</tr>
<tr>
<td><strong>RTECS:</strong></td>
</tr>
<tr>
<td><strong>TSCA:</strong></td>
</tr>
<tr>
<td><strong>Synonym:</strong></td>
</tr>
<tr>
<td><strong>Chemical Formula:</strong></td>
</tr>
<tr>
<td><strong>Contact Information:</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 2: Composition and Information on Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Composition:</strong></td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>p-Chloranil</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 3: Hazards Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EMERGENCY OVERVIEW</strong></td>
</tr>
<tr>
<td>Appearance: yellow to green flakes.</td>
</tr>
<tr>
<td><strong>Caution!</strong> May cause eye and skin irritation. May cause respiratory and digestive tract irritation. May cause central nervous system depression. Light sensitive.</td>
</tr>
<tr>
<td><strong>Target Organs:</strong> Central nervous system.</td>
</tr>
<tr>
<td><strong>Potential Health Effects</strong></td>
</tr>
<tr>
<td><strong>Eye:</strong> May cause eye irritation.</td>
</tr>
<tr>
<td><strong>Skin:</strong> May cause skin irritation.</td>
</tr>
<tr>
<td><strong>Ingestion:</strong> May cause digestive tract disturbances. Ingestion of large amounts may cause CNS depression. Ingestion of large amounts may cause pain, constipation or diarrhea.</td>
</tr>
<tr>
<td><strong>Inhalation:</strong> May cause respiratory tract irritation.</td>
</tr>
<tr>
<td><strong>Chronic:</strong> Prolonged or repeated exposure can cause psychic abnormalities such as anxiety, depression and excitability.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 4: First Aid Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eyes:</strong></td>
</tr>
<tr>
<td>Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.</td>
</tr>
<tr>
<td><strong>Skin:</strong></td>
</tr>
<tr>
<td>Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical aid if symptoms occur.</td>
</tr>
<tr>
<td><strong>Ingestion:</strong></td>
</tr>
<tr>
<td>Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Get medical aid if irritation or symptoms occur.</td>
</tr>
</tbody>
</table>
Inhalation:
Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Section 5: Fire and Explosion Data

General Information:
As in any fire, wear a self-contained breathing apparatus in pressuredemand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcoholresistant foam. Use agent most appropriate to extinguish fire.

Flash Point: Not applicable.
Autoignition Temperature: > 400 deg C (> 752.00 deg F)
Explosion Limits, Lower: N/A
Upper: N/A
NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6: Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7: Handling and Storage

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Store protected from light.

Storage:
Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from light.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits
OSHA Vacated PELs: Tetrachloro-P-Benzooquinone: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to minimize contact with skin.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9: Physical and Chemical Properties

Physical State: Flakes
Appearance: yellow to green
Odor: None reported.
pH: Not available.
Vapor Pressure: Negligible
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: Sublimes
Freezing/Melting Point: > 289 deg C
Decomposition Temperature: > 295 deg C
Solubility: Insoluble.
Specific Gravity/Density: 1.97
Molecular Formula: C6Cl4O2
Molecular Weight: 245.88

Section 10: Stability and Reactivity Data
Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, dust generation, excess heat, strong oxidants, slowly decomposed by light.
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11: Toxicological Information
RTECS#: CAS# 118-75-2: DK6825000
LD50/LC50:
CAS# 118-75-2:
Inhalation, rat: LC50 = 2485 mg/m3/4H;
Oral, rat: LD50 = 4 gm/kg;
Carcinogenicity: CAS# 118-75-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12: Ecological Information
Ecotoxicity: No data available. No information available.
Physical: No information available.
Other: No information available.

Section 13: Disposal Considerations
Dispose of in a manner consistent with federal, state, and local regulations.

Section 14: Transport Information
<table>
<thead>
<tr>
<th></th>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Name:</td>
<td>TOXIC SOLIDS, ORGANIC, N.O.S.</td>
<td>No information available.</td>
</tr>
<tr>
<td>Hazard Class:</td>
<td>6.1</td>
<td></td>
</tr>
<tr>
<td>UN Number:</td>
<td>UN2811</td>
<td></td>
</tr>
<tr>
<td>Packing Group:</td>
<td>III</td>
<td></td>
</tr>
</tbody>
</table>
Section 15: Other Regulatory Information

US FEDERAL
TSCA
CAS# 118-75-2 is listed on the TSCA inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
CAS# 118-75-2: Section 4, 1 % de minimus concentration [see 40 CFR 766 and 707.72]

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 118-75-2: immediate.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 118-75-2 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
XI N

Risk Phrases:
R 36/38 Irritating to eyes and skin.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:
S 37 Wear suitable gloves.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)
CAS# 118-75-2: No information available.

Canada - DSL/NDSL
CAS# 118-75-2 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List
Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/06/2010

Last Updated: 24/11/2012

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