



MATERIAL SAFETY DATA SHEET

ULTI-PRO 100

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name: ULTI-PRO 100
m-anilinophenol; 3-phenylaminophenol;
m-hydroxydiphenylamine; 3-hydroxy-N-phenylaniline

Supplier: Castle Chemicals Ltd, Peak House
6 Oxford Road, Altrincham, Cheshire WA14 2DY
Tel: +44 161 608 8800 Fax: +44 161 608 1910
Email: Info@castlechemicals.com

2. HAZARD IDENTIFICATION

EYE Direct contact or contact with dust may cause severe irritation.

SKIN Direct contact or contact with dust may cause irritation. Material may penetrate skin and may cause systemic toxicity.

INHALATION May cause irritation to airways.

INGESTION May cause gastrointestinal irritation. Ingestion could produce dizziness, weakness, collapse, and respiratory failure.

3. COMPOSITION INFORMATION ON INGREDIENTS

CHEMICAL FAMILY Amine
FORMULA $C_{12}H_{11}NO$
CAS NUMBER 101-18-8

| Hazardous Ingredients | CAS Number | Percent | Exposure Limit ppm MG/M ³ |
|---------------------------|------------|---------|---|
| 3-hydroxy-N-phenylaniline | 101-18-8 | 95 | None Established |
| Resorcinol | 108-46-3 | 2-3 | ACGIH-TLV 10 45 ACGIH-STEL 20 90 |

| | | | |
|----------------------------------|-----------|------|------------------------------|
| Sodium p-toluenesulfonate | 657-84-1 | 2-3 | None Established |
| Diphenylamine | 122-39-4 | 1-2 | ACGIH-TLV 10 |
| N,N'-diphenyl-1,3-benzenediamine | 5905-36-2 | 1-4 | None Established |
| Aniline | 62-53-3 | <0.5 | ACGIH-TLV 2 OSHA-PEL 5 19 |

4. FIRST AID MEASURES

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| EYE CONTACT | Remove contact lenses. Immediately flush eyes and surrounding areas with large amounts of lukewarm water for at least 15 minutes. Seek immediate medical aid. |
| SKIN CONTACT | Remove contaminated clothing. Immediately flush area with large amounts of water for at least 15 minutes. If any irritation is present seek immediate medical aid. |
| INHALATION | Remove from exposure. If breathing has stopped or is difficult, administer artificial respiration or oxygen as indicated. Seek medical aid. |
| INGESTION | DO NOT ATTEMPT TO GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Remove any evidence of substance from victim's mouth. If victim is alert, give 8-12 ounces of water. Immediately seek medical aid. |
| NOTE TO PHYSICIAN: | Further treatment may be necessary. Contact local Poison Control Center. |

5. FIREFIGHTING MEASURES

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| FLASH POINT & METHOD: | >96°C (>220°F) |
| AUTOIGNITION TEMP | ND |
| FLAMMABLE LIMITS (% BY VOLUME/AIR) | LOWER: ND UPPER: ND |
| TDG FLAMMABILITY CLASSIFICATION | None |
| EXTINGUISHING MEDIA FIRE-FIGHTING PROCEDURES | Use dry chemical, carbon dioxide, water spray/fog. Solid or straight stream water may be "ineffective", use spray or fog. Wear complete fire service protective equipment, including full-face MSHA/NIOSH approved self-contained breathing apparatus. Use water to cool fire-exposed container/structure/protect personnel. |
| FIRE AND EXPLOSION HAZARDS | Dust (powder) may form explosive mixture in air. |
| SENSITIVITY TO MECHANICAL IMPACT | None |
| SENSITIVITY TO STATIC DISCHARGE | None |

6. ACCIDENTAL RELEASE MEASURES

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|------------------------------------|---|
| SPILL OR LEAK PROCEDURES (PRODUCT) | Stop spills/leak if no risk involved. Stay upwind. Shovel back into original dry container or waste receptacle. Flush area with water. Contain runoff from fire control and dilution water. |
|------------------------------------|---|

7. HANDLING AND STORAGE

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| HANDLING | Avoid contact with skin or eyes. Avoid prolonged or repeated breathing of dust. Minimize generation of dust. Observe good personal hygiene practices and recommended procedures. |
| STORAGE | Protect from physical damage. Keep in a closed, properly labeled container within a cool (shaded), dry, well-ventilated area. |
| OTHER | DO NOT TAKE INTERNALLY. Not for use or storage in or around the home. Do not use until manufacturer's precautions have been read/understood. Vacuum or wet down dust as a good housekeeping practice. Provide suitable facilities for quick drenching or flushing of the eyes and body as per 29 CFR 1910.151(c). |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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|-------------------------|---|
| EYE PROTECTION | Safety glasses; chemical goggles; face shield, as necessary. |
| SKIN PROTECTION | In dusty areas wear necessary resistant protective apparel, including necessary head, hand and footwear protection. |
| RESPIRATORY PROTECTION: | If ventilation is inadequate to maintain personal inhalation exposures below TLV (PEL), use appropriate MSHA/NIOSH approved respiratory protection to comply with current 29 CFR 1910.134 and manufacturer's "Instructions" and "Warnings". If within OSHA protection factor, air purifying organic vapor cartridge/canister with particulate filter is acceptable. |
| VENTILATION | Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits and areas below explosive dust concentrations. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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|-------------------|---------------|
| BOILING POINT | 340°C (644°F) |
| SPECIFIC GRAVITY | 1.24 @ 25°C |
| MELTING POINT | 80°C (176°F) |
| % VOLATILE BY VOL | NA |
| VAPOR PRESSURE | ND |

| | |
|--|--|
| EVAPORATION RATE (ETHER=1): | NA |
| VAPOR DENSITY(AIR=1) | ND |
| VISCOSITY | NA |
| SOLUBILITY (WATER) | <1% pH: 9.3 apparent (50:50 acetone:water) |
| VOC | ND |
| COEFFICIENT OF WATER/ OIL DISTRIBUTION: | ND |
| APPEARANCE/ODOR | Dark Purple Solid |

10. STABILITY AND REACTIVITY

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|---|---|
| CONDITIONS CONTRIBUTING TO INSTABILITY | None |
| INCOMPATIBILITY | Strong Oxidizers |
| HAZARDOUS REACTIONS/ DECOMPOSITION/ COMBUSTION PRODUCTS | Toxic fumes of carbon monoxide, carbon dioxide, and nitrogen oxides |
| CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: | None |

11. TOXICOLOGICAL INFORMATION

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|-------------------------|--|
| REFERENCE | M-HYDROXYDIPHENYLAMINE |
| ORAL TOXICOLOGY | No Data Available |
| DERMAL TOXICOLOGY | No Data Available |
| PRIMARY SKIN IRRITATION | No Data Available |
| PRIMARY EYE IRRITATION | No Data Available |
| REFERENCE | RESORCINOL |
| ORAL TOXICOLOGY | 301 mg/kg Oral-Rat LD ₅₀ ; 29 mg/kg Oral-Human LD _{LO} |
| DERMAL TOXICOLOGY | 3.36 g/kg Intact and Abraded Skin-Rabbit LD ₅₀ , 24 hrs. |
| SKIN IRRITATION | 24 hrs. Rabbit; Intact and Abraded Skin; Primary Irritation Score 4.4 |
| EYE IRRITATION | 24 hrs. Rabbit; Corrosive. |
| REFERENCE | DIPHENYLAMINE |
| ORAL TOXICOLOGY | 3000 mg/kg Oral-Rat LD _{LO} |

12. ECOLOGICAL INFORMATION

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|-----------|------------------------|
| REFERENCE | M-HYDROXYDIPHENYLAMINE |
| | No Data Available. |
| REFERENCE | RESORCINOL |

Water Pollution:

BOD: 61% ThOD

COD: 100% ThOD

ThOD: 1.89

Biodegradation: Adapted culture/89% removal after 48 hr. incubation, feed 446 mg/1

Biological Effects:

Bacteria-E. coli: LD₀ <1000 mg/1

Algae-Scenedesmus: LD₀ 60 mg/1

Arthropoda-Daphnia: LD₀ 0.8 mg/1

Fathead Minnows: 96 hr. LC₅₀, 53 mg/1

REFERENCE

DIPHENYLAMINE

Water Pollution:

COD: 90% ThOD

ThOD: 2.39

Biological Effects:

No Data Available

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Dispose of as an industrial waste in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

| | | | |
|--------------------------|------|------------------|------|
| IMO PROPER SHIPPING NAME | None | IMO HAZARD CLASS | None |
| ADR/RID HAZARD CLASS | None | UN NUMBER | None |
| REQUIRED MARKING | None | | |

15. REGULATORY INFORMATION

R Phrases: 36/38

S Phrases: 26

Symbol

This product is identified on the following inventories:

Irritating to eyes and skin

In case of contact with eyes, rinse immediately with plenty of water and seek medical advise.

St. Andrews Cross for Irritant

U.S. TSCA Inventory with the CAS NO. 101-18-8

Europe's EINECS with number 202-923-6

For other country inventories contact INDSPEC Chemical Corporation

16. OTHER INFORMATION

This product contains aniline which is listed by the IARC as a Category 3, "Cannot be classified as to its carcinogenicity in humans." No other known ingredients occur at greater than 0.1% and are listed as a carcinogen in the IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, the NTP Annual Report on Carcinogens or OSHA 29 CFR 1910 Subpart Z Toxic and Hazardous Substances (specifically regulated substances).

Do not use until manufacturer's precautions have been read/understood. Wash exposed areas promptly and thoroughly after skin contact from working with this product and before eating, drinking, using tobacco products or restrooms. Do not wear contact lenses without proper eye protection when using this product.

Disclaimer

Warranty

Not for drug, household or other uses.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Castle Chemicals Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.

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