# Safety Data Sheet

For Compliance with OSHA 29 CFR 1910.1200 and ANSI Z400.1-1998

## 1. Product and Company Identification

| | |
|---|---|
| Product Name | Zip and Tray Developer |
| Manufacturer's name | Horizons Incorporated |
| Address | 18531 South Miles Road<br>Cleveland, Ohio 44128 |
| Emergency Telephone Number | (216) 475-0555 |
| Information Telephone Number | (216) 475-0555 |

## 2. Hazards Identification

### GHS Classification

| | |
|---|---|
| H303 | Acute toxicity, Oral – Category 5 |
| H333 | Acute toxicity, Inhalation – Category 5 |
| H313 | Acute toxicity, Dermal – Category 5 |
| H316 | Skin corrosion/irritation – Category 3 |
| H319 | Serious eye damage/eye irritation – Category 2A |
| H317 | Skin sensitization – Category 1B |
| H341 | Germ cell mutagenicity – Category 2 |
| H351 | Carcinogenicity – Category 2 |
| H400 | Hazardous to the aquatic environment, Acute – Category 1 |

### GHS Label Elements

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|---|---|
| Hazard Pictogram |  |
| Signal Word | Warning |

| Hazard Statements | |
|---|---|
| H303+H333 | May be harmful if swallowed or inhaled |
| H313 | May be harmful in contact with skin |
| H316 | Causes mild skin irritation |
| H319 | Causes serious eye irritation |
| H317 | May cause an allergic skin reaction |
| H341 | Suspected of causing genetic defects |
| H351 | Suspected of causing cancer |
| H400 | Very toxic to aquatic life |

| Precautionary Statements | |
|---|---|
| P201 | Obtain special instructions before use |
| P202 | Do not handle until all safety precautions have been read and understood |
| P261 | Avoid breathing mists, vapors, & spray |
| P264 | Wash thoroughly after handling |
| P280 | Wear protective gloves & clothing, and eye & face protection |
| P272 | Contaminated work clothing should not be allowed out of the workplace |
| P273 | Avoid release into environment |
| P302+P352 | IF ON SKIN: flush area of contact with water |
| P333+P313 | If skin irritation or rash occurs, get medical attention |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing |
| P337+P313 | If eye irritation persists, get medical attention |
| P362+P364 | Take off contaminated clothing and wash before reuse |
| P308+P313 | If exposed or concerned: Get medical advice/attention |
| P312 | Call a poison center/doctor if you feel unwell |
| P404 | Store locked up |

## 3. Composition/Information on Ingredients

| Components/ Materials | CAS Number | % |
|---|---|---|
| Hydroquinone | 123-31-9 | 5 |
| Sodium Hydroxide | 1310-73-2 | 3 |
| Sodium Sulfite | 7757-83-7 | 11 |
| | | |
| Hydroquinone is subject to the reporting requirements of section 313 of SARA 313 Title III (40CFR part 372) | | |

## 4. First Aid Measures

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|---|---|
| Inhalation | No specific intervention is indicated as the product is not likely to be hazardous by inhalation. |
| Skin Contact | Flush skin with water after contact. Wash contaminated clothing before reuse. |
| Eye Contact | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. |
| Ingestion | Only induce vomiting at the instruction of medical personnel. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. |
| Treatment note to physician | Absorption of hydroquinone into the body leads to the formation of methemoglobin that, in sufficient concentration, causes cyanosis. Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body, including scalp and nails, is of utmost importance. If cyanosis is severe, intravenous injection of methylene blue, one milligram per kilogram of body weight, may be of value. |

## 5. Fire Fighting Measures

| | | |
|---|---|---|
| **Flammable Properties** | | Flash point – non-flammable |
| **Flammable Limits** | | |
| | Lower Flammable Limit | Not applicable |
| | Upper Flammable Limit | Not applicable |
| **Hazardous Combustion Products** | | Carbon monoxide |
| **Unusual Fire/Explosion Hazards** | | None |
| **Extinguishing Media** | | Use that of surrounding fire |
| **Special Firefighting Procedures** | | Wear self-contained breathing apparatus & protective clothing to prevent contact with skin and eyes. |

## 6. Accidental Release Measures

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| **Small Spill** | Absorb spill with an inert material and place in a chemical waste container |
| **Large Spill** | Contain spilled liquid with sand or earth. Absorb spill with an inert material and shovel into a chemical waste container. Prevent runoff from entering into storm sewers and ditches which lead into natural waterways |

## 7. Handling and Storage

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| **Handling** | Avoid contact with eyes. Keep container closed. Use only in a well ventilated area. Wash thoroughly after handling. Avoid prolonged or repeated breathing of mists and vapors. Avoid prolonged or repeated contact with skin. |
| **Storage** | Store between 65-95ºF, preferably between 68-85ºF, in order to avoid decomposition or crystallization. Keep containers sealed when not in use. |

## 8. Exposure Control/Personal Protection

**Exposure Limits**

| Chemical Name | CAS No. | OSHA | ACGIH | NIOSH |
|---|---|---|---|---|
| Hydroquinone | 123-31-9 | 2mg/m$^3$ TWA | 2mg/m$^3$ TWA | 2mg/m$^3$/15M ceiling |
| Sodium Hydroxide | 1310-73-2 | 2mg/m$^3$ TWA | 2mg/m$^3$ TWA | 2mg/m$^3$ TWA |
| Sodium Sulfite | 7757-83-7 | 2mg/m$^3$ TWA | ND | ND |

ND – Not Determined

| | |
|---|---|
| **Engineering Controls** | Control airborne concentrations below the exposure limits. Use only with adequate ventilation. Local exhaust ventilation may be necessary. |
| **Respiratory Protection** | When respiratory protection is required, use a NIOSH approved air-purifying respirator equipped with a combination high efficiency filter and organic vapors canister. For emergency and other conditions where exposure limits may be greatly exceeded, use an approved positive-pressure, self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. |
| **Skin Protection** | For brief contact, no precautions other than clean body-covering clothing should be needed. Use chemical resistant gloves, such as nitrile or polychloroprene. |
| **Eye Protection** | Use safety glasses with side shields or, preferably, chemical goggles. |

## 9. Physical and Chemical Properties

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| Boiling Point | >100ºC |
| Specific Gravity | 1.15 – 1.20 |
| % Volatiles | 78% (water) |
| Solubility in Water | Soluble in all proportions |
| pH | 11.3 – 11.7 |
| Odor | Odorless |
| Form | Liquid |
| Color | Pale amber |
| VOC | 60g/L |

## 10. Stability and Reactivity

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| **Chemical Stability** | Stable under normal storage conditions |
| **Conditions to Avoid** | Do not mix with strong acids |
| **Incompatibility** | Strong acids |
| **Hazardous Decomposition Products** | None |
| **Hazardous Polymerization** | Will not occur |

## 11. Toxicological Information

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|---|---|
| Results of component toxicity test performed: | |
| Data for Sodium hydroxide (CAS 1310-73-2) | Acute Toxicity Data: Oral LD50: >500 mg/kg (rabbit). Dermal LD50: >2 g/kg (rabbit). Inhalation LC50: >40 mg/cubic meter/1 hour (rat). Skin irritation: Causes burns to eyes and skin. |
| Data for Sodium sulphite (CAS 7757-83-7) | Acute Toxicity Data: Oral (Rat) LD50: >1600 mg/Kg. Skin irritation: none. Eye irritation: slight; washing palliative. Can cause allergic reactions (headaches, difficulty in breathing, rapid heart rate and anaphylaxis) to susceptible individuals. |
| Data for hydroquinone (CAS 123-31-9) | Acute Toxicity Data: Oral LD50 (rat): 400 mg/kg. Oral LD50 (male rat): 400 mg/kg. Oral LD50 (male mouse): 100 - 200 mg/kg. Dermal LD50 (guinea pig): > 1,000 mg/kg. Dermal absorption rate: 1.1 micrograms (s) / cm 2 / hour. Skin irritation: slight. Skin Sensitization: positive. Eye irritation: moderate. Mutagenicity/Genotoxicity Data: Salmonella typhimurium assay (Ames test): negative (in presence and absence of Chromosomal aberration assay: negative (in absence of activation) Chromosomal aberration assay: positive (in presence of activation) Sister chromatid exchange (SCE) assay: positive (in presence and absence of activation) Definitions for the following section(s): LOEL =lowest-observed-effect level, LOAEL = lowest observed-adverse-effect, NOAEL = no observed-adverse-effect level, NOEL =no-observed-effect level. Repeated dose toxicity: Dermal (17-day, rat): NOEL; 3800 mg/kg/day. Dermal (17-day): LOEL (Lowest observable effect level); 4800 mg/kg/day. Developmental Toxicity Data: Oral (female rabbit): NOEL for developmental toxicity; 25mg/kg/day.<br>There is insufficient evidence for classifying hydroquinone as a suspected carcinogenic or mutagenic substance in humans. No increases in cancer rates were observed in an epidemiology study which looked at mortality among more than 800 persons employed primarily in the manufacture of hydroquinone. Carcinogenicity studies in animals were inconclusive. Rats and mice were given hydroquinone by stomach tube or at high concentrations in the diet. Responses were not consistent across route of exposure, species or sex. The International Agency for Research on Cancer (IARC) has classified hydroquinone in Group 3, i.e., "not classifiable" as a carcinogen. Hydroquinone is generally negative in bacterial mutagenicity tests; there is evidence for the clastogenicity (chromosome breakage) of hydroquinone in vivo and in vitro. The relevance of chromosomal effects in test animals in predicting human risk is unclear.<br>Human experience: See listed components above. |
| This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen. | |

## 12. Ecological Information

The following properties are ESTIMATED from the components of the preparations.

Potential Toxicity:

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| Toxicity to fish (LC50) | 1 - 10 mg/l. |
| Toxicity to daphnia (EC50) | < 1 mg/l |
| Toxicity to algae (IC50) | 10 - 100 mg/l |
| Toxicity to other organisms (EC50) | > 100 mg/l |

| | |
|---|---|
| Persistence and degradability | Readily biodegradable |
| Chemical Oxygen Demand (COD) | < 1 g/g |
| Biochemical Oxygen Demand (BOD) | < 1 g/g |
| Chemical Fate Information | ND |

## 13. Disposal Considerations

Small quantities may be discharged to sewers. Note that Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.
Contact a licensed professional waste disposal service to dispose of large quantities of this material

## 14. Transport Information

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| **Proper Shipping Name** | Chemicals, N.O.S., Not D.O.T. Regulated |
| **UN No.** | None |
| **IATA Class** | Not Regulated |
| **Packing Group** | Not applicable |

## 15. Regulatory Information

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| **U.S. Federal Regulations** | |
| **TSCA Section 8 (b) Inventory** | All components are listed on the TSCA Chemical Inventory |
| **OSHA** | Hazardous by definition of Hazard Communications Standard (29CFR1910.1200) |
| **SARA Hazard Category** | |
| **SARA 302 Components** | Hydroquinone |
| **SARA 313 Components** | Hydroquinone |
| **SARA 311/312 Hazards** | Acute health Hazard, Chronic Health Hazard |
| **State Regulations** | |
| **Massachusetts Right To Know Components** | Hydroquinone |
| **Pennsylvania Right To Know Components** | Hydroquinone |
| **New Jersey Right To Know Components** | Hydroquinone |
| **California Proposition 65 Components** | None |

## 16. Other Information

**HMIS**

H – 2

F – 0

R – 0

PPE – B

The information in this material safety data sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations & management, and for persons working with or handling this product. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions but does not purport to be all inclusive. Horizons Incorporated shall not be held liable for any damage resulting from handling or from contact with the above product.