


Horizons Incorporated

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 Cleveland, Ohio 44128
Emergency Telephone Number	(216) 475-0555
Information Telephone Number	(216) 475-0555

2. Hazards Identification	
GHS Classification	
H303 H333 H313 H316 H319 H317 H341 H351 H400	Acute toxicity, Oral – Category 5 Acute toxicity, Inhalation – Category 5 Acute toxicity, Dermal – Category 5 Skin corrosion/irritation – Category 3 Serious eye damage/eye irritation – Category 2A Skin sensitization – Category 1B Germ cell mutagenicity – Category 2 Carcinogenicity – Category 2 Hazardous to the aquatic environment, Acute – Category 1
GHS Label Elements	
Hazard Pictogram	
Signal Word	Warning
Hazard Statements	
H303+H333 H313 H316 H319 H317 H341 H351 H400	May be harmful if swallowed or inhaled May be harmful in contact with skin Causes mild skin irritation Causes serious eye irritation May cause an allergic skin reaction Suspected of causing genetic defects Suspected of causing cancer Very toxic to aquatic life
Precautionary Statements	
P201 P202 P261 P264 P280 P272 P273 P302+P352 P333+P313 P305+P351+P338 P337+P313 P362+P364 P308+P313 P312 P404	Obtain special instructions before use Do not handle until all safety precautions have been read and understood Avoid breathing mists, vapors, & spray Wash thoroughly after handling Wear protective gloves & clothing, and eye & face protection Contaminated work clothing should not be allowed out of the workplace Avoid release into environment IF ON SKIN: flush area of contact with water If skin irritation or rash occurs, get medical attention IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists, get medical attention Take off contaminated clothing and wash before reuse If exposed or concerned: Get medical advice/attention Call a poison center/doctor if you feel unwell 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

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

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

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 65-95°F, preferably between 68-85°F, 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

Boiling Point	>100°C
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

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

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. 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. 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:

	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

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**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.