DENTSPLY International

DENTSPLY RINN

Safety Data Sheet

Safety Data Sheet (in compliance with Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010), US 29CFR1910.1200, Canada Hazardous Products Regulation

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier:

Trade Name (as labeled):	**RINN® Rapid Process Developer**
Part/Item Number:	**520602, 520600R**

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:

Recommended Use:	**Professional dental photographic processing solution**
Restrictions on Use:	**None known**

1.3 Details of the Supplier of the Safety Data Sheet:

Supplier Name:	**DENTSPLY RINN**
Supplier Address:	**1301 Smile Way** **York, PA 17404**
Supplier Telephone Number:	**800-323-0970 (Product Information)**
Email address:	**ElginIL-CustomerService@Dentsply.com**

1.4 Emergency Transportation Telephone Number:

Emergency Transportation Contact Telephone Number:	**800-424-9300 Chemtrec**

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture:

GHS Classification:

Health	Environmental	Physical
Carcinogen Category 2 (H351) Eye Damage Category 1 (H318) Germ Cell Mutagen Category 2 (H341) Skin Irritant Category 2 (H315) Skin Sensitizer Category 1 (H317)	Aquatic Acute Toxicity Category 1 (H400) Aquatic Chronic Toxicity Category 2 (H411)	Not Hazardous

2.2 Label Elements:

Signal Word: Danger

Contains: Hydroquinone, Sodium Hydroxide

Hazard Phrases		Precautionary Phrases	
H315	Causes skin irritation.	P201	Obtain special instructions before use.
H317	May cause an allergic skin reaction.	P202	Do not handle until all safety precautions have been read and understood.
H318	Causes serious eye damage.	P261	Avoid breathing mist, vapors and spray.
H341	Suspected of causing genetic defects.	P264	Wash thoroughly after handling.
H351	Suspected of causing cancer.	P272	Contaminated work clothing should not be allowed out of the workplace.
H400	Very toxic to aquatic life.	P273	Avoid release to the environment.
H411	Toxic to aquatic life with long lasting effects.	P280	Wear protective gloves, protective clothing, eye protection and face protection.
		P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P310	Immediately call a POISON CENTER or doctor.
		P302+P352	IF ON SKIN: Wash with plenty water.
		P333+P313	If skin irritation or rash occurs: Get medical attention.
		P362+P364	Take off contaminated clothing and wash it before reuse.
		P308 + P313	IF exposed or concerned: Get medical attention.
		P391	Collect spillage.
		P405	Store locked up.
		P501	Dispose of contents and container in accordance with local and national regulations.

2.3 Other Hazards: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture:

Hazardous Components	C.A.S. #	EINECS # / REACH Registration #	Classification	WT %
Not Hazardous Components	Mixture	Mixture	Not Applicable	<100
Hydroquinone	123-31-9	204-617-8	Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1B, H317 Muta. 2, H341 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	1-3
Sodium Hydroxide	1310-73-2	215-185-5	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318	1-3

The exact concentration is being withheld as a trade secret.

Refer to Section 16 for the full text of the GHS Classifications.

4. FIRST AID MEASURES

4.1 Description of First Aid Measures:	
Eye	Immediately flush thoroughly with water for 20 minutes, while holding the eye lids open to be sure the material is washed out. Remove contact lenses if present and easy to do. Get immediate medical attention.
Skin	Remove contaminated clothing and shoes. Flush skin with water for several minutes. Get medical attention if irritation or rash occurs. Launder clothing before re-use.
Inhalation	Remove victim to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get medical attention if you feel unwell.
Ingestion	If small quantities are swallowed, rinse out mouth with water. Do not induce vomiting unless directed to do so by a medical professional. Get medical attention if you feel unwell.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed:
May cause severe eye irritation or burns with possible eye damage. May cause moderate skin irritation. May cause skin sensitization. This product contains Hydroquinone, which is suspected of causing cancer and genetic defects. Risk of cancer depends on duration and level of exposure.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed:
Immediate medical attention is required for eye contact.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media:	In case of fire, use media as appropriate for surrounding fire.

5.2 Special Hazards Arising from the Substance or Mixture:
This product is not flammable or combustible. Decomposition may release oxides of carbon and sulfur.

5.3 Advice for Fire-Fighters:	
Fire Fighting Procedures/Precautions for Fire Fighters:	Use water to cool exposed containers and structures. Firefighters should wear full emergency equipment and approved positive pressure self-contained breathing apparatus. Do not enter fire area without proper protection.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:
Avoid contact with skin, eyes or clothing. Avoid breathing vapors and mists. Ventilate area. Wear appropriate protective clothing as described in Section 8.
6.2 Environmental Precautions:
Avoid releases to the environment. Report releases as required by local and national authorities.
6.3 Methods and Material for Containment and Cleaning Up:
Contain and collect using inert absorbent materials and place in appropriate containers for disposal.
6.4 Reference to Other Sections:
Refer to Section 8 for Personal Protective Equipment and Section 13 for Disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handing:
Avoid contact with the eyes, skin and clothing. Avoid breathing vapors and mists. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Do not reuse containers. Empty containers retain product residues and can be hazardous. Follow all SDS precautions when handling empty containers.
7.2 Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool, well-ventilated area away from oxidizers and other incompatible materials.
7.3 Specific End Use (s): For professional use only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:	
Occupational Exposure Limits:	
Not Hazardous Components	None Established
Hydroquinone	1 mg/m3 TWA ACGIH TLV (DSEN) 2 mg/m3 TWA OSHA PEL
	0.5 mg/m3 TWA UK WEL
	2 mg/m3 TWA Belgium OEL
Sodium Hydroxide	2 mg/m3 Ceiling ACGIH TLV 2 mg/m3 TWA OSHA PEL
	2 mg/m3 STEL UK WEL
	2 mg/m3 TWA Belgium OEL
Biological Exposure Limits: None Established	

8.2 Exposure Controls:

Appropriate Engineering Controls: Use with adequate local exhaust ventilation to maintain exposures below the occupational exposure limits.

Individual Protection Measures (PPE):

Specific Eye/ Face Protection: Chemical safety goggles should be worn when splashing is possible. In Europe, follow EN 166.

Specific Skin Protection: Wear impervious gloves to prevent skin contact. Contact your glove supplier for selection assistance. In Europe, follow EN 374.

Specific Respiratory Protection: None should be needed for normal use. If the exposure limits are exceeded, an approved respirator with dust/mist cartridges or supplied air respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

Specific Thermal Hazards: None required

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties:

Appearance:	Slight yellow liquid	**Explosive Limits:**	**LEL:** **UEL:**
Odor:	Mild odor	**Vapor Pressure (mmHg):**	18 mmHg (torr)
Odor Threshold:	Not available	**Vapor Density:**	1.08
pH:	11.15	**Relative Density:**	1.08 (water= 1)
Melting/Freezing Point:	Not available	**Solubility(ies):**	Soluble in water

Initial Boiling Point and Boiling Range:	>100°C (>212°F)	**Partition Coefficient: n-octanol/water:**	Not available
Flash Point:	Not flammable	**Auto-Ignition Temperature:**	Not available
Evaporation Rate:	Not available	**Decomposition Temperature:**	Not available
Flammability (solid, gas):	Not applicable	**Viscosity:**	Not available
Explosive Properties:	Not explosive	**Oxidizing Properties:**	Not an oxidizer

9.2 Other Information: None.

10. STABILITY AND REACTIVITY

10.1 Reactivity: None known.

10.2 Chemical Stability: Stable under normal storage and handling conditions.

10.3 Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4 Conditions to Avoid: None known.

10.5 Incompatible materials: Avoid oxidizing agents, strong acids, and strong bases.

10.6 Hazardous Decomposition Products: Decomposition may release oxides of carbon and sulfur.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:

Eyes: May cause severe irritation or burns with possible eye damage. Contact with hydroquinone may affect the pigmentation of the eyes.

Skin: May cause moderate skin irritation with redness, and dryness. May cause an allergic skin reaction (sensitization).

Ingestion: Ingestion may cause mucous membrane and gastrointestinal irritation. Ingestion of hydroquinone may cause nervous system depression with symptoms of nausea, dizziness, sense of suffocation, increased respiration rate, vomiting, pallor, muscle twitching, headache, dyspnea, cyanosis, delirium, and collapse.

Inhalation: Inhalation of vapors may cause mucous membrane and respiratory irritation and central nervous system depression with symptoms of headache, dizziness, drowsiness, tingling, numbness and muscle twitching, nausea, vomiting, and unconsciousness.

Chronic Health Effects: None known.

Irritation: Hydroquinone: Not irritating to rabbit skin. This product is expected to be a skin irritant.

Corrosivity: Hydroquinone is expected to be corrosive to eyes. Sodium Hydroxide is classified as corrosive to skin and eyes. This product is expected to be corrosive to eyes.

Sensitization: Hydroquinone: Sensitizing in in-vivo Mouse Local Lymphode assay and a Guinea pig Maximization test.

Carcinogenicity: Hydroquinone is listed as Unclassifiable as to Carcinogenicity in Humans (group 3) by IARC, Confirmed Animal Carcinogen with Unknown Relevance to Humans (A3) by ACGIH, and as a category 2 carcinogen by the EU CLP. None of the other components of this product are listed as carcinogens by OSHA, IARC, NTP, ACGIH or the EU CLP.

Mutagenicity: Hydroquinone: In an in-vitro mammalian chromosome aberration test, the results were negative without metabolic activation and positive with metabolic activation. Negative results were seen in an in-vitro bacterial reverse mutation assay (Ames test). Positive in in-vivo mammalian germ cell cytogentic assay (chromosome aberration) with mice.

Acute Toxicity Data:

Hydroquinone: Oral rat LD50: 367.3 mg/kg, Skin rabbit LD50: >2000 mg/kg

Sodium Hydroxide: No toxicity data available

Reproductive Toxicity Data: No data available

Specific Target Organ Toxicity Single Exposure (STOT-SE): No data available

Specific Target Organ Toxicity Repeated Exposure (STOT-RE): No data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Hydroquinone: 96 hr LC50 Rainbow trout: 0.638 mg/L, 48 hr EC50 Daphnia magna: 0.061- 0.134 mg/L, 72 hr ErC50 Pseudokirchnerella subcapitata: 0.33 mg/L (M-Factor Acute – 10, M-Factor Chronic- 1)

This product is classified as very toxic to the aquatic environment and toxic to the aquatic environment with long-term adverse effects. Releases to the environment should be avoided.

12.2 Persistence and Degradability: No data available

12.3 Bio-accumulative Potential: No data available

12.4 Mobility in Soil: No data available

12.5 Results of PBT and vPvB Assessment: Not required

12.6 Other Adverse Effects: None

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Waste Treatment Recommendations: Dispose in accordance with national and local regulations.

14. TRANSPORT INFORMATION

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
DOT	UN3082	Environmentally Hazardous Substance, liquid, n.o.s (Hydroquinone)	9	III	Yes
EU ADR/RID	UN3082	Environmentally Hazardous Substance, liquid, n.o.s (Hydroquinone)	9	III	Yes
IMDG	UN3082	Environmentally Hazardous Substance, liquid, n.o.s (Hydroquinone)	9	III	Marine Pollutant
IATA/ICAO	UN3082	Environmentally Hazardous Substance, liquid, n.o.s (Hydroquinone)	9	III	Yes

14.6 Special Precautions for User: Not applicable.

14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code: This product is provided only in non -bulk containers.

15. REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:

U.S. Federal Regulations

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA): Releases above the RQ of 3,333 lbs (based on the RQ for Hydroquinone of 100 lbs present at 1-3%) must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Toxic Substances Control Act (TSCA): All of the components of this product are listed on the TSCA inventory.

Clean Water Act (CWA): This product is not regulated under the Clean Water Act.

Clean Air Act (CAA): Hydroquinone is regulated under the Clean Air Act.

Superfund Amendments and Reauthorization Act (SARA) Title III Information:

SARA Section 311/312 (40 CFR 370) Hazard Categories: Acute Health, Chronic Health.

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):

Components	C.A.S. #	WT %
Hydroquinone	123-31-9	1-3%

State Regulations

California: This product contains the following chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm: None known.

International Regulations

Canadian Environmental Protection Act: All of the components in this product are listed on the Domestic Substances list (DSL).

European Inventory of Existing Chemicals (EINECS): All of the components in this product are listed on the EINECS inventory.

EU REACH: All components requiring registration have been pre-registered.

Australian Inventory of Chemical Substances: All of the components in this product are listed on the AICS for Australia.

China Inventory of Existing Chemicals and Chemical Substances: All of the components in this product are listed on the IECSC for China.

Japanese Existing and New Chemical Substances: All of the components in this product are listed on the Japanese ENCS list.

Philippines Inventory of Chemicals and Chemical Substances: All of the components in this product are listed on the PICCS.

Korean Existing Chemicals List: All of the components in this product are listed on the KECL for Korea.

15.2 Chemical Safety Assessment: None required.

16. OTHER INFORMATION

HMIS Hazard Rating:

Health: 3* Flammability: 0 Physical Hazard: 0

*Chronic Health Hazard

Full Text of Hazard Statements and Abbreviations used in Section 3:

Acute Tox. 4	Acute Toxicity Category 4
Aquatic Acute 1	Aquatic Acute Toxicity Category 1
Aquatic Chronic 1	Aquatic Chronic Toxicity Category 1
Carc. 2	Carcinogen Category 2
Eye Dam. 1	Eye Damage Category 1
Met. Corr. 1	Corrosive to Metals Category 1
Muta. 2	Germ Cell Mutagen Category 2
Skin Corr. 1A	Skin Corrosion Category 1A
Skin Sens. 1B	Skin Sensitizer Category 1B
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Supersedes: None

Date Updated: 22 July 2015

Revision Summary: New SDS

Data Sources: US NLM ChemID Plus and HSDB, Substance SDS for components, ECHA Registered Substances, C&L Inventory, Country websites for occupational exposure limits.