

Rapid Electroplating Process, Inc SAFETY DATA SHEET



Conforms to: 29CFR 1900.1200 App D
Complies with Canadian WHMIS MSDS Requirements
Based on CCOHS: A Brief Summary of Canadian Requirements (Apr 2014)
Conforms to Regulation (EC) No.453/2010/EU (REACH)

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Product Identification:	Test Solution #26
Product Use:	Selective Electroplating
Manufacturer:	Rapid Electroplating Process, Inc. 2901 W. Soffel Ave. Melrose Park, IL 60160 USA
Telephone	00-1-708-344-2504 (9:00 A.M. -4:30 PM, CST/CDT, M-F)
Emergency telephone:	In U.S.--CHEMTREC 1-800-424-9300 (24 Hrs) Outside U.S.-- 001-703-527-3887 (call collect)
Date of Issue (Version):	Jan 2018

CANADIAN SUPPLIER
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2. HAZARDS IDENTIFICATION

Note: Unless noted, hazard information presented here is based on the properties of the full strength constituent chemicals with RAPID product concentrations > 1 wt% (>0.1 wt% if identified as carcinogenic). This product contains diluted forms of the chemicals which should be taken into account when evaluating the hazards of the product as a whole.

Hazard	Category	Hazard	Category
Acute Toxicity	--	Reproductive Hazard	--
Oral	Not Classified (ATE Product LD50)	Germ Cell Mutagenicity	Unknown
Dermal	Unknown	Reproductive Toxicity	Unknown
Inhalation Dusts/Mists	Unknown	Lactation	Unknown
Skin Corrosion	2	Target Organ Toxicity	--
Serious Eye Damage/Irritation	2	Single Exposure	Eyes, skin, respiratory system, central nervous system, cardiovascular system
Carcinogenicity	No Component Categorized by IARC, NTP	Chronic Exposure	Unknown
Respiratory/Skin Sensitizations	Unknown	Aspiration Hazard	Unknown

Hazard Category	Signal Word	Precautionary Statements:	Hazard Symbol(s) (GHS):
2 (Skin Corrosion/Irritation)	Warning	Causes skin irritation	

Hazard Statements (US-GHS):

ID	Hazard Statement
EUH210	Safety data sheet available on request.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.
H303	May be harmful if swallowed
H315	Causes skin irritation
H333	May be harmful if inhaled

Precautionary Statements (US-GHS):

ID	Precautionary Statement
P102	Keep out of reach of children
P103	Read label before use
P233	Keep container tightly closed
P234	Keep only in original container
P235	Keep cool
P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P262	Do not get in eyes, on skin, or on clothing
P264	Wash exposed skin thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P271	Use only outdoors or in a well-ventilated area
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+311	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician
P302+352	IF ON SKIN: Wash with soap and water
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P332+313	If skin irritation occurs: Get medical advice/attention
P337+313	If eye irritation persists get medical advice/attention
P370	In case of fire use extinguishers suitable for surrounding fire.

ID	Precautionary Statement
P405	Store locked up
P501	Dispose of contents/waste/container according to national/state/local regulations

Hazards Not Otherwise Classified	None known.
Ingredients with Unknown Toxicity	None >1%

3. COMPOSITION/INFORMATION ON INGREDIENTS

Coatalyte/Activator (Test Solution #26):

Chemical Name	Common Name	CAS-No	Concentration (Wt%)
Iodine	-	7553-56-2	< 5
Potassium Iodide	-	7681-11-0	< 45
Components not designated as hazardous or <1 wt% or carcinogen <0.1 wt%	Various	Various	> 50

Note Because of manufacturing variances and possible product improvements, the compositions and physical properties listed here should be considered representative. The values listed should not be construed as specifications.

4. FIRST AID MEASURES

Description of First Aid Measures:	
General Information:	Move to fresh air; flush affected area with water (especially under eyelids if eyes affected); remove contaminated clothing; treat for shock as necessary. Never give anything by mouth to an unconscious person.
Following Inhalation:	Move to fresh air. If breathing stops, give artificial respiration/oxygen as appropriate. Call physician.
Following Eye contact:	Rinse with clear water, especially under eyelid. Consult Physician.
Following Skin contact:	Wash affected area with soap and water. Consult physician if irritation occurs.
Following Ingestion:	Call a poison control center (PCC)/physician/emergency responders immediately and follow instructions. If victim is conscious: Rinse mouth. If directed, administer water or milk and/or oxygen if symptoms develop. Do not administer emetic or induce vomiting. Never give anything by mouth to an unconscious person. If victim has stopped breathing: Call a poison control center (PCC)/physician/emergency responders immediately and follow instructions. Mallinckrodt suggests that physicians may consider a stomach wash with 5% sodium thiosulfate solution followed by saline catharsis as beneficial for ingestion of iodine.
Most Important Symptoms and Effects	
Acute:	Irritation
Delayed:	Slightly toxic with repeated inhalation or ingestion. Prolonged absorption may produce skin rash, mucous membrane irritation ("iodism"). Weakness, anemia, loss of weight, and general depression may occur.
Indication of Immediate Medical Attention and Special Treatment Needed:	
Note to physicians:	Persistent irritation/chemical burns. Consult physician. Nothing specific known.

5. FIRE-FIGHTING MEASURES

Extinguishing Media:	As appropriate for surrounding fire.
Extinguishing Media Which must not be used for safety reasons:	None known
Hazardous combustion products:	On heating, iodine fumes.
Special exposure hazards arising from the substance or mixture:	If material is free to mix with water, mixing may result in oxidizing solution runoff.
Conditions of Flammability:	Not flammable (aqueous solution). See Section 9: Physical and Chemical Properties.
Advice for fire-fighters:	Wear self-contained breathing apparatus.
Additional information:	Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Control access to spill area. Ensure adequate ventilation and avoid direct contact with material.
Environmental precautions:	Comply with all national, regional and local regulations for ultimate disposal of dilute iodine solution. No special requirements are known
Methods for containment:	Use inert, absorbent material.
Methods for clean-up	Confine material in appropriately marked container. After pickup, clean affected area with mild reducing agent (e.g., sodium thiosulfate/hypo) or a ferrous salt (not carbon, sulfur or strong reducing agent)
Additional information:	Dispose of in accordance with local, regional and national regulations.

7. HANDLING AND STORAGE

Precautions for safe handling:	--
Handling:	DO NOT TAKE INTERNALLY. USE IN WELL-VENTILATED AREA. DO NOT MIX WITH OTHER CHEMICALS. Keep container closed when not in use. Keep away from children. Test Solution #26 may give off some iodine odor during use.
Usage:	To reduce the possibility of injury by splatter or obstruction of ventilation/air movement, do not crowd workpiece with body or face. Avoid conditions that could allow workpiece to: bend/spring-back and "flick" solution; or drop into puddled solution and splash.

Storage:	Store/use in ventilated areas and avoid temperature extremes. Keep away from foodstuff, oxidizable materials (silver and ammonia salts, etc.) and other incompatible materials. Do not store near combustible/flammable materials (in the event of fire and container rupture, there is the potential for iodine solution runoff from fire-fighting water).
Specific end use(s):	None identified Recommendations: Observe instructions for use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values:

Chemical Name	ACGIH TWA	ACGIH STEL	OSHA PEL
Iodine	.01 ppm - Inh Frac	0.1 ppm (Vapor)	1C mg/m3 - C--Ceiling Value
Potassium Iodide	.01 mg/m3 Inhalable Fraction	Not Listed.	Not Listed.

Note Under normal conditions of evaporation, only the water phase is expected to evaporate leaving the soluble salts behind. Any TWA is thus believed to be meaningful only for the abnormal case in which the solution as a whole is introduced into the air as an aerosol.

Exposure controls:	--
Engineering Controls:	Local exhaust.
Personal protective equipment:	As appropriate for conditions of use: Chemical aprons/suits, eye wash fountain, safety shower.
Respiratory protection:	NIOSH approved dust/mist respirator.
Eye protection:	Chemical splash goggles/face shield. Avoid use of contact lenses.
Hand protection:	Gloves, rubber, e.g., butyl or neoprene.
Skin protection:	As appropriate for conditions of use: Rubber aprons/suits
Environmental exposure controls:	Maintain levels below community environmental protection thresholds.
General hygiene considerations:	DO NOT TAKE INTERNALLY. Keep away from eyes and out of open wounds. Practice good industrial/personal hygiene and safety practice; do not smoke/eat/drink in area of use; wash hands after use; wash clothing/materials that may have come in contact with chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Coalyte/Activator (Test Solution #26):

Physical state:	Liquid	Vapour pressure:	As Water
Appearance:	Liquid	Vapor density:	As Water
Color:	Brown liquid	Relative Density:	1.5
Odor:	Slight iodine odor	Solubility (in water):	Aqueous solution--soluble in water.
pH:	7.1	Partition coefficient: n-octanol/water:	As Water
Melting point / melting range:	< 0° C (< 32° F)	Auto-ignition temperature:	Not Applicable (aqueous solution)
Boiling point / boiling range:	> 100° C (> 212° F)	Decomposition Temperature:	Not Applicable (aqueous solution)
Flash point:	Not Applicable (aqueous solution)	Viscosity:	As Water
Evaporation rate:	As Water	Oxidizing properties:	Oxidizing
Flammability (solid, gas):	Not Flammable	Explosion Data-Mechanical Impact:	Insensitive
Upper / Lower Flammability Limit--Explosive Limits:	Not Applicable (aqueous solution)	Explosion Data-Static Discharge:	Insensitive

10. STABILITY AND REACTIVITY

Reactivity:	None expected
Chemical Stability:	Stable
Possibility of Hazardous Reactions:	On heating, iodine fumes.
Conditions to avoid:	High heat. Mixing with incompatible materials.
Incompatible Materials:	Acetaldehyde, C2H2, reducing agents, chlorine/bromine/flourine and compounds, silver or other metallic salts (i.e., anything that can be oxidized), ammonia/ammonia salts (may form ammonium iodide). Iodine reactions can be violent or explosive
Hazardous decomposition products:	On heating, iodine fumes.

11. TOXICOLOGICAL INFORMATION

Toxic Levels:

Source	Chemical Name	LD50 (mg/kg)	LC50 (mg/M3)	IARC Listed	NTP Listed	OSHA Listed	ACGIH Carcinogenicity Listed
TstSol26	Iodine	14000 OR	Not Available	No	No	No	ACGIH lists Iodine and Iodides as 'Not Classifiable as a Human Carcinogen.'
TstSol26	Potassium Iodide	1862 OM(Ldlo)	Not Available	No	No	No	ACGIH lists Iodine and Iodides as 'Not Classifiable as a Human Carcinogen.'

Estimated Product LD50 (mg/kg) 4347.826

EFFECTS OF ACUTE EXPOSURE	--
Eye contact:	Potential for irritation
Inhalation:	Mist can cause respiratory irritation.
Skin contact:	Potential for irritation
Ingestion:	Potential for irritation--contains iodine which may effect the thyroid

EFFECTS OF CHRONIC EXPOSURE	--
Target organs:	Eyes, skin, respiratory system, central nervous system, cardiovascular system
Chronic Effects:	Slightly toxic with repeated inhalation or ingestion. Prolonged absorption may produce skin rash, mucous membrane irritation ("iodism"). Weakness, anemia, loss of weight, and general depression may occur.
Carcinogenicity:	No component has been identified as a carcinogen. Mallinckrodt notes the existence of mutation/reproductive effect citations without detail.
Mutagenicity:	Unknown
Reproductive Effects:	Unknown
Developmental Effects:	--
Teratogenicity:	Unknown
Embryotoxicity:	Unknown
Skin Sensitization:	Unknown
Respiratory Sensitization:	Unknown
Toxicologically Synergistic Materials	Unknown

12. ECOLOGICAL INFORMATION

Specific Toxicity:						
Chemical Name	Effect dose/concentration	Test duration	Species	Result/Evaluation	Method	Remark
Iodine	LC 50 0.51 - 0.68 mg/l	96 Hrs	Water flea (Daphnia magna)	LC50	Unknown	-
Iodine	LC50 0.48-0.58 mg/L	96 Hrs	Rainbow trout, donaldson trout (Oncorhynchus mykiss),	LC50	Unknown	-
Iodine	LC 50 3 mg/L	24 Hrs	Guppy (Poecilia reticulata),	LC50	Unknown	-
Potassium Iodide	EC50 2.7 mg/l	24 Hrs	Daphnia magna (Water flea)	EC50	Unknown	-
Potassium Iodide	LC50 2,190 mg/l	96 Hrs	Oncorhynchus mykiss (Rainbow trout)	LC50	Unknown	-

Persistence and degradability:	Unknown
Bioaccumulative potential:	Unknown
Mobility in soil:	Unknown
Results of PBT and vPvB Assessment:	None known.
Other adverse effects:	None known.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:	Comply with all national, regional and local regulations for ultimate disposal of dilute iodine solution. No special requirements are known
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14. TRANSPORT INFORMATION

Coatalyte/Activator (Test Solution #26):		
Information List	US DOT	IATA
UN Number	N/A	N/A
Hazard Class	N/A	N/A
Packing Group	N/A	N/A
Proper Shipping Name	Not regulated by DOT	Not regulated by IATA.
Technical Name (if needed)		
Labels	N/A	N/A

Marine Pollutant	No
Special Precautions	None beyond those above.
Transport in Bulk	Not Applicable

15. REGULATORY INFORMATION

Spill Notifications:	Notify local Safety Coordinators. If spill quantity warrants, notify appropriate government officials.
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Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal:						
Chemical Name	CAS	CERCLA RQ (lbs)	Section 302 EHS TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Code
Iodine, elemental	7553-56-2	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Potassium Iodide	7681-11-0	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

FEDERAL: Superfund Amendments and Reauthorization Act (SARA) of 1986:	This notice is not known to apply.
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Canada:

Chemical Name	CAS	WHMIS Note	WHMIS Class
Iodine, elemental	7553-56-2	Discl; 1%	The information is not currently available.
Potassium Iodide	7681-11-0	Toxic; D2A; 0.1%	D2A Very Toxic Material Causing Other Toxic Effects

California:

Chemical Name	CAS	CA Prop 65 Toxicity	CA Acutely Hazardous TQ	CA Hazardous Substance	CA Hazardous Note
Iodine, elemental	7553-56-2	Not Listed	Not Listed	Listed	--
Potassium Iodide	7681-11-0	Not Listed	Not Listed	Not Listed	--

CALIFORNIA: 'Safe Drinking Water and Toxic Enforcement Act of 1986' (Proposition 65): Although no chemical listed by California has been added to the new product, listed chemicals may be present in the new/used product from trace amounts in the raw materials or by virtue of product use and contact with other materials.

16. OTHER INFORMATION**Key literature references and sources for data:**

Centers for Disease Control and Prevention, NIOSH Pocket Guide to Chemical Hazards (05/18/2016)

Dudavari, Susan, Editor, The Merk Index (01/01/1989)

Sax, N. Irving, Dangerous Properties of Industrial Materials (01/01/1979)

ACGIH, 2013 TLVs and BEIs- (Threshold Limit Values for Chemical Substances in Work Air Adopted by ACGIH) (03/01/2013)

National Toxicology Program (USHHS/PHS), 14th Report on Carcinogens (11/03/2016)

IARC, Overall Evaluations of Carcinogenicity to Humans As evaluated in IARC Monographs Volumes 1-120 (05/17/2017)

EPA, Title III List of Lists: Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act, As Amended (03/01/2015)

Code of Federal Regulations 29, Labor, Parts 1910.1000, SubPart Z

Code of Federal Regulations 40, Protection of the Environment

Code of Federal Regulations 49, Transportation

California Code of Regulations 22 Division 2, Safe Drinking Water and Toxic Enforcement Act of 1986", "Chemicals known to the State to Cause Cancer and Reproductive Toxicity (12/29/2017)

Toxicological Index Service, CSST, Classification according to WHMIS 1988 (12/13/2013)

Toxicological Index Service, CSST, WHMIS Disclosure list (Repealed 2/11/2015) (04/15/2014)

Canadian Centre for Occupational Health and Safety, Information Elements Required on a WHMIS 2015 Safety Data Sheet (SDS) (02/11/2015)

IATA, Dangerous Goods Regulations, 59th Edition (01/01/2018)

Various Chemical Suppliers, MSDS's which did not identify chemicals as hazardous

Canadian centre for Occupational Health and Safety, First Aid for Chemical Exposures (01/09/2017)

National Library of Medicine, TOXNET

National Capital Poison Center, First Aid for Poisons (12/31/2017)

Canadian Centre for Occupational Health and Safety, The Safety Data Sheet -- A Guide to First Aid Recommendations (01/02/2018)

SDS for Iodine

SDS for Potassium Iodide

Disclaimer: This Material Data Sheet was prepared in accordance with US/Canadian guidelines. All information, recommendations and suggestions appearing herein concerning our product are based upon information and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity and suitability of the product described herein for his/her own use. Since the actual use by others is beyond our control, no guarantees expressed or implied are made by Rapid Electroplating Process, Inc. as to the effects of such use, the results to be obtained, or the safety and toxicity of the product, nor does Rapid Electroplating Process, Inc. assume any liability arising out of use by others of the product referred to herein. Nor is the information herein to be construed absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

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Edition Date: Jan 2018 **Prepared by:** R. F. Rapids