

SAFETY DATA SHEET

Revision Date 01-April-2024 Revision Number 5

1. Identification

Product Name Palladium nitrate, Matrix Modifier Solution, Specpure®

Cat No. : 44765

Synonyms No information available

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Importer/Distributor

Fisher Scientific 112 Colonnade Road, Ottawa, ON K2E 7L6,

Canada

Tel: 1-800-234-7437

Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

WHMIS 2015 Classification Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

Corrosive to metalsCategory 1Skin Corrosion/IrritationCategory 1Serious Eye Damage/Eye IrritationCategory 1Specific target organ toxicity (single exposure)Category 3

Target Organs - Respiratory system.

Label Elements

Signal Word

Danger

Hazard Statements

May be corrosive to metals Causes severe skin burns and eye damage May cause respiratory irritation



Precautionary Statements

Prevention

Keep only in original container

Do not breathe dust/fumes/gas/mist/vapours/spray

Wash face, hands and any exposed skin thoroughly after handling

Use only outdoors or in a well-ventilated area

Wear protective gloves/protective clothing/eye protection/face protection

Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

IF INHALED: Remove person to fresh air and keep comfortable for breathing

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Immediately call a POISON CENTER/doctor Wash contaminated clothing before reuse

Absorb spillage to prevent material damage

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Store in corrosive resistant polypropylene container with a resistant inliner

Store in a dry place

Disposal

Dispose of contents/container to an approved waste disposal plant

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Water	7732-18-5	93.00
Nitric acid	7697-37-2	6.90
Palladium	7440-05-3	0.10

4. First-aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Immediate medical attention is required.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Remove and wash

contaminated clothing and gloves, including the inside, before re-use. Call a physician

immediately.

Inhalation If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use

mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory

medical device. Call a physician immediately.

Ingestion Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an

unconscious person. Call a physician immediately.

Most important symptoms/effects Causes burns by all exposure routes. Product is a corrosive material. Use of gastric

lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue

and danger of perforation

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Not combustible. CO 2, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable Extinguishing Media No information available

Flash Point No information available

Method - No information available

Autoignition Temperature

Explosion Limits

No information available

Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

Hazardous Combustion Products

Nitrogen oxides (NOx). Palladium oxide.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	0	-

Personal Precautions Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. **Up**

	7. Handling and storage
Handling	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.
Storage.	Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store in metal containers. Incompatible Materials. Acids. Metals.

8. Exposure controls / personal protection

Exposure Guidelines

Component	Alberta	British	Ontario TWAEV	Quebec	ACGIH TLV	OSHA PEL	NIOSH
		Columbia					
Nitric acid	TWA: 2 ppm	TWA: 2 ppm	TWA: 2 ppm	TWA: 2 ppm	TWA: 2 ppm	(Vacated) TWA:	IDLH: 25 ppm
	TWA: 5.2 mg/m ³	STEL: 4 ppm	STEL: 4 ppm	TWA: 5.2 mg/m ³	STEL: 4 ppm	2 ppm	TWA: 2 ppm
	STEL: 4 ppm			STEL: 4 ppm		(Vacated) TWA:	TWA: 5 mg/m ³
	STEL: 10 mg/m ³			STEL: 10 mg/m ³		5 mg/m ³	STEL: 4 ppm
				_		(Vacated) STEL:	STEL: 10 mg/m ³
						4 ppm	
						(Vacated) STEL:	
						10 mg/m ³	
						TWA: 2 ppm	
						TWA: 5 mg/m ³	

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles

Hand Protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Glove material	Breakthrough time	Glove thickness	Glove comments
Natural rubber	See manufacturers	-	Splash protection only
Nitrile rubber	recommendations		
Neoprene			
PVC			

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly Recommended Filter type: Multi-purpose/ABEK conforming to EN14387 Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls

No information available.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

9. Physical and chemical properties

Physical State Liquid Appearance Red

Odor Odorless

Odor Threshold No information available

pH

Melting Point/RangeNo data availableBoiling Point/RangeNo information availableFlash PointNo information availableEvaporation RateNo information available

Flammability (solid,gas) Not applicable

Flammability or explosive limits

Upper
Lower
No data available
No data available
Vapor Pressure
Vapor Density
Specific Gravity
Solubility
No information available
No information available
No information available

Partition coefficient; n-octanol/water No data available

Autoignition TemperatureNo information availableDecomposition TemperatureNo information availableViscosityNo information availableMolecular Formula0.1% Pd in 10% HN O3

311/01 4 11 10/01 11

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products.

Incompatible Materials Acids, Metals

Hazardous Decomposition Products Nitrogen oxides (NOx), Palladium oxide

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.Dermal LD50Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.Vapor LC50Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component Information

Component		LD50 Oral	LD50 Dermal	LC50 Inhalation
	Water -		-	-
	Nitric acid	Not listed	Not listed	LC50 = 2500 ppm. (Rat) 1h

Toxicologically Synergistic No information available

Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

IrritationNo information availableSensitizationNo information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed				

Palladium nitrate, Matrix Modifier Solution, Specpure®

| | Nitric acid | 7697-37-2 | Not listed |
|---|-------------|-----------|------------|------------|------------|------------|------------|
| ı | Palladium | 7440-05-3 | Not listed |

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental EffectsNo information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects,both acute and Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

delayed

Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Persistence and Degradability based on information available. May persist

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Nitric acid	-2.3

13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN2031
Proper Shipping Name NITRIC ACID

Hazard Class 8
Packing Group ||

TDG

UN-No UN2031
Proper Shipping Name NITRIC ACID

Hazard Class 8
Packing Group

Packing Gr IATA

UN-No

UN2031

Proper Shipping Name Nitric acid (Mixture)

Hazard Class 8
Packing Group ||

IMDG/IMO

UN-No UN2031

Proper Shipping Name Nitric acid (Mixture)

Hazard Class 8
Packing Group II

15. Regulatory information

International Inventories

	Component	Component CAS-No DSL N		NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
Γ	Water	7732-18-5	Х	-	Х	ACTIVE	231-791-2	-	-
	Nitric acid	7697-37-2	Х	-	Х	ACTIVE	231-714-2	-	-
Г	Palladium	7440-05-3	Х	-	Х	ACTIVE	231-115-6	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
Water	7732-18-5	X	KE-35400	X	-	Х	Х	Х	Х
Nitric acid	7697-37-2	X	KE-25911	Х	Х	X	Х	Х	Х
Palladium	7440-05-3	Х	KE-27744	Х	-	X	X	Х	X

Legend:

X - Listed '-' - Not Listed

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances **KECL** - Korean Existing and Evaluated Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

Component	Canada - National Pollutant Release Inventory (NPRI)	Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances	Canada's Chemicals Management Plan (CEPA)
Nitric acid	Part 1, Group A Substance		

Legend

NPRI - National Pollutant Release Inventory

Other International Regulations

Authorisation/Restrictions according to EU REACH

Component		REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	
Nitric acid	-	Use restricted. See item 75. (see link for restriction details)	-

REACH links

https://echa.europa.eu/substances-restricted-under-reach

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable

Not applicable

Not applicable

Not applicable

Not applicable

7697-37-2

7440-05-3

Not applicable

Not applicable

Listed

Palladium	7440-05-3	Not applicable	Not applicable	Not applicable	Not applicable			
Component	CAS-No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)			
Water	7732-18-5	Not applicable	Not applicable	Not applicable	Not applicable			
Nitric acid	7697-37-2	Not applicable	Not applicable	Not applicable	Annex I - Y34			

16. Other information

Prepared By Product Safety Department

Email: chem.techinfo@thermofisher.com

Not applicable

www.thermofisher.com

Revision Date 01-April-2024 Print Date 01-April-2024

Revision Summary New emergency telephone response service provider.

Disclaimer

Nitric acid

Palladium

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End of SDS