

Emergency Phone Number (24 hours) CHEMTREC (800-424-9300)
Outside US: 703-527-3887

SECTION 1

**CHEMICAL IDENTIFICATION OF THE
SUBSTANCE/PREPARATION**

NAME: Tuning Solution 1: **CL-TUNE-1:** 10 ug/mL each of Lithium, Beryllium, Magnesium, Cobalt, Yttrium, Rhodium, Indium, Barium, Cerium, Thallium, Lead and Uranium, all in a solution of 2% Nitric Acid and 5% Hydrochloric Acid.

CHEMICAL FAMILY: Dilute acid solution

COMMON NAME OR SYNONYMS: None

SPEX CERTIPREP CATALOG NUMBER: CL-TUNE-1

Manufacturer/Supplier
SPEX CERTIPREP
203 Norcross Avenue
Metuchen, NJ 08840

SPEX CERTIPREP LTD
2 Dalston Gardens
Stanmore, Middlesex HA7 1BQ
England
Tel: (0) 20 8204 6656

SECTION 2

COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS:

MATERIAL	%	TLV UNITS	CAS #	EINECS
HNO ₃	~2	5 mg/m ³	[7697-37-2]	(231-714-2)
HCl	~5	C 7 mg/m ³ (TWA)	[7647-01-0]	(231-595-7)

NONHAZARDOUS:

Water	~93	N/A	[7732-18-5]	
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SECTION 3

HAZARDS IDENTIFICATION

Corrosive. Harmful by ingestion. Irritating to the eyes and skin upon contact.

SECTION 4

FIRST AID MEASURES

General: Remove contaminated clothing, wash thoroughly before reuse.

Eyes: Flush with water for at least 15 minutes occasionally lifting upper and lower eyelids.

Skin: Remove contaminated clothing and flush with water thoroughly.

Inhalation: Move to fresh air. Consult doctor if symptoms persist.

Ingestion: Get immediate medical help. If the patient is conscious, give large quantities of water.

SECTION 5

FIRE FIGHTING MEASURES

Flash Point: Not applicable.

Extinguishing media: Appropriate to surrounding fire conditions.

Special Hazards and Procedure: Oxides of Nitrogen can be released in case of fire. It may emit toxic Cl fumes in case of fire.

Protective Equipment: Wear self contained breathing apparatus and full protective suit.

SECTION 6

ACCIDENTAL RELEASE MEASURES

Ventilate area. Wear protective equipment. Do not allow to enter drainage systems or water ways. Dilute spill with water and neutralize with soda ash, limestone etc. Wipe up and put into a sealed container for proper disposal. Wash spill site with water after material pick up is complete. Wear chemical resistant glasses, gloves and clothing.

CL-TUNE-1 cont'd

SECTION 7
HANDLING & STORAGE

Ensure good ventilation/exhaustion at work place. Have an immediate availability of an eye wash in case of emergency. Store at room temperature. Keep the container tightly closed.

SECTION 8
EXPOSURE CONTROLS/PERSONAL PROTECTION

Wear goggles, protective apron and acid resistant gloves. Use under fume hood. In case of brief exposure, use MSHA/NIOSH approved respirator.

SECTION 9
PHYSICAL & CHEMICAL PROPERTIES

Form:	Liquid
Appearance & odor:	Transparent with acrid odor
Specific Gravity:	Approximately 1.0
pH:	1 to 2
Melting point:	n/a
Boiling Point:	~100C
Solubility in water:	Miscible
Danger of Explosion:	Not explosive
Self-ignitability:	Not self igniting

SECTION 10
STABILITY & REACTIVITY

Stability: Stable under normal storage and use.
Reactivity: Reacts with strong alkali, various metals, and organic substances.
Hazardous Decomposition Products: Toxic fumes under conditions of fire.
Hazardous Polymerization: Will not occur.

SECTION 11
TOXICOLOGICAL INFORMATION

May produce caustic effect on skin, mucous membranes and eyes. Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

TOXICITY DATA:

Concentrated HNO₃—RTECS#-QU5775000
orl-hmn LDLo: 430 mg/kg
unk-man LDLo: 110 mg/kg

HCl—RTECS#-MW4025000
ihl-hmn LCLo: 1300 ppm/30M
unk-man LDLo: 81 mg/kg

SECTION 12
ECOLOGICAL INFORMATION

Do not allow product to reach ground water, water bodies or sewage system.

SECTION 13
DISPOSAL CONSIDERATIONS

Contact local Hazardous or Chemical waste disposal agency for regulations.

SECTION 14
TRANSPORT INFORMATION

Air :
CLASS 8
UN/ID # 3264
Packing Group: III
Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s.
(Hydrochloric Acid/Nitric acid solution)

CL-TUNE-1 contd

SECTION 14
TRANSPORT INFORMATION

Ground:

CLASS 8

UN/ID Number: 3264

Packing Group: III

Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s.
(Hydrochloric Acid/Nitric acid solution)

SECTION 15
REGULATORY INFORMATION

USA:

SARA: Subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372.

Components of this solution are reported in EPA TSCA Inventory List
WHMIS Classification (Canada): CLASS E

EC Guidelines:

C: Corrosive

Risk Phrases:

34 - Causes burns

Safety Phrases:

36/37/39 - Wear suitable protective clothing, gloves, and eye/face protection

26 - in case of contact with eyes, rinse immediately with plenty of water and seek medical attention.

45 - in case of accident or if you feel unwell, seek medical advice immediately.

SECTION 16
OTHER INFORMATION

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References: NIOSH/OSHA, Occupational Health Guideline for Nitric Acid, (Sept.1978)
The Sigma/Aldrich Library of Chemical Safety Data, Ed.I, (1985)
Registry of Toxic Effects of Chemical Substances, 1981-82
Patty's Industrial Hygiene and Toxicology, 3rd Revised Edition, Vol. 2A, 1981
Threshold Limit Values and Biological Exposure Indices for 1988-89, ACGIH
Dangerous properties of Industrial Materials by N.Irving Sax and Richard J. Lewis, Sr.(Ninth Edition) *

Date: April 29, 2006