

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

**0 ppb of Beryllium Standard**

**SECTION 1**

**CHEMICAL IDENTIFICATION OF THE SUBSTANCE/PREPARATION**

**NAME:** Custom Claritas Standard —Single-Element Solution: 0 ppb of Beryllium, in a solution of 1% Ammonium Bifluoride and trace amounts of Nitric acid, all in water

**CHEMICAL FAMILY:** Dilute acid solution

**COMMON NAME OR SYNONYMS:** None

**SPEX CERTIPREP CATALOG NUMBER:** ZENKIAZ-3

Manufacturer/Supplier

SPEX CERTIPREP

203 Norcross Avenue

Metuchen, NJ 08840

SPEX CERTIPREP LTD

2 Dalston Gardens

Stanmore, Middlesex, HA7 1BQ

England

Tel: 0181 204 9517

**SECTION 2**

**COMPOSITION/INFORMATION ON INGREDIENTS**

**HAZARDOUS:**

MATERIAL	%	TLV UNITS	CAS #	EINECS
HNO <sub>3</sub>	<1	5 mg/m <sup>3</sup>	[7697-37-2]	(231-714-2)
NH <sub>4</sub> F • HF	1	2.5 mg (F)/m3	[1341-49-]	

**NONHAZARDOUS:**

Water	~98	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.

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.

**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

ZENKIAZ-3 Cont'd

**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.

Ammonium Bifluoride may become corrosive in presence of moisture. Dust may cause irritation with coughing and shortness of breath.

**TOXICITY DATA:**

Concentrated HNO<sub>3</sub>—RTECS#-QU5775000      NH<sub>4</sub>F • HF --RTECS# BQ9200000  
orl-hmn LDLo: 430 mg/kg  
unk-man LDLo: 110 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. (Nitric acid solution)

**Ground:**

CLASS 8  
UN/ID Number: 3264  
Packing Group: III

Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (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**

SPEX CERTIPREP ASSUMES NO RESPONSIBILITY AND MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AS TO THE ACCURACY OR COMPLETENESS OF THE DATA CONTAINED HEREIN. INDICATED SAFETY MEASURES MAY NOT REFLECT ALL APPROPRIATE SAFETY MEASURES. SPEX CERTIPREP ASSUMES THAT ONLY QUALIFIED INDIVIDUALS, TRAINED AND FAMILIAR WITH PROCEDURES SUITABLE TO THIS PRODUCT, WILL HANDLE THIS PRODUCT.

**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, 3<sup>rd</sup> 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:** December 9, 2008

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

**10 ppb of Beryllium Standard**

**SECTION 1**

**CHEMICAL IDENTIFICATION OF THE SUBSTANCE/PREPARATION**

**NAME:** Custom Claritas Standard —Single-Element Solution: 10ppb of Beryllium, in a solution of 1% Ammonium Bifluoride and trace amounts of Nitric acid, all in water

**CHEMICAL FAMILY:** Dilute acid solution

**COMMON NAME OR SYNONYMS:** None

**SPEX CERTIPREP CATALOG NUMBER:** ZENKIAZ-4

Manufacturer/Supplier

SPEX CERTIPREP

203 Norcross Avenue

Metuchen, NJ 08840

SPEX CERTIPREP LTD

2 Dalston Gardens

Stanmore, Middlesex, HA7 1BQ

England

Tel: 0181 204 9517

**SECTION 2**

**COMPOSITION/INFORMATION ON INGREDIENTS**

**HAZARDOUS:**

MATERIAL	%	TLV UNITS	CAS #	EINECS
HNO <sub>3</sub>	<1	5 mg/m <sup>3</sup>	[7697-37-2]	(231-714-2)
NH <sub>4</sub> F • HF	1	2.5 mg (F)/m <sup>3</sup>	[1341-49-]	

<b>NONHAZARDOUS:</b>				
Water	~98	N/A	[7732-18-5]	

**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.

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.

**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

ZENKIAZ-4 Cont'd

**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.

Ammonium Bifluoride may become corrosive in presence of moisture. Dust may cause irritation with coughing and shortness of breath.

**TOXICITY DATA:**

Concentrated HNO<sub>3</sub>—RTECS#-QU5775000      NH<sub>4</sub>F • HF --RTECS# BQ9200000  
orl-hmn LDLo: 430 mg/kg  
unk-man LDLo: 110 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. (Nitric acid solution)

**Ground:**

CLASS 8  
UN/ID Number: 3264  
Packing Group: III

Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (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**

SPEX CERTIPREP ASSUMES NO RESPONSIBILITY AND MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AS TO THE ACCURACY OR COMPLETENESS OF THE DATA CONTAINED HEREIN. INDICATED SAFETY MEASURES MAY NOT REFLECT ALL APPROPRIATE SAFETY MEASURES. SPEX CERTIPREP ASSUMES THAT ONLY QUALIFIED INDIVIDUALS, TRAINED AND FAMILIAR WITH PROCEDURES SUITABLE TO THIS PRODUCT, WILL HANDLE THIS PRODUCT.

**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, 3<sup>rd</sup> 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:** December 9, 2008

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

**40 ppb of Beryllium Standard**

**SECTION 1**

**CHEMICAL IDENTIFICATION OF THE SUBSTANCE/PREPARATION**

**NAME:** Custom Claritas Standard —Single-Element Solution: 40ppb of Beryllium, in a solution of 1% Ammonium Bifluoride and trace amounts of Nitric acid, all in water

**CHEMICAL FAMILY:** Dilute acid solution

**COMMON NAME OR SYNONYMS:** None

**SPEX CERTIPREP CATALOG NUMBER:** ZENKIAZ-5

Manufacturer/Supplier

SPEX CERTIPREP

203 Norcross Avenue

Metuchen, NJ 08840

SPEX CERTIPREP LTD

2 Dalston Gardens

Stanmore, Middlesex, HA7 1BQ

England

Tel: 0181 204 9517

**SECTION 2**

**COMPOSITION/INFORMATION ON INGREDIENTS**

**HAZARDOUS:**

MATERIAL	%	TLV UNITS	CAS #	EINECS
HNO <sub>3</sub>	<1	5 mg/m <sup>3</sup>	[7697-37-2]	(231-714-2)
NH <sub>4</sub> F • HF	1	2.5 mg (F)/m3	[1341-49-]	

**NONHAZARDOUS:**

Water	~98	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.

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.

**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

ZENKIAZ-5 Cont'd

**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.

Ammonium Bifluoride may become corrosive in presence of moisture. Dust may cause irritation with coughing and shortness of breath.

**TOXICITY DATA:**

Concentrated HNO<sub>3</sub>—RTECS#-QU5775000      NH<sub>4</sub>F • HF --RTECS# BQ9200000  
orl-hmn LDLo: 430 mg/kg  
unk-man LDLo: 110 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. (Nitric acid solution)

**Ground:**

CLASS 8  
UN/ID Number: 3264  
Packing Group: III

Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (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, 3<sup>rd</sup> 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:** December 9, 2008

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

**200 ppb of Beryllium Standard**

**SECTION 1**

**CHEMICAL IDENTIFICATION OF THE SUBSTANCE/PREPARATION**

**NAME:** Custom Claritas Standard —Single-Element Solution: 200ppb of Beryllium, in a solution of 1% Ammonium Bifluoride and trace amounts of Nitric acid, all in water

**CHEMICAL FAMILY:** Dilute acid solution

**COMMON NAME OR SYNONYMS:** None

**SPEX CERTIPREP CATALOG NUMBER:** ZENKIAZ-6

Manufacturer/Supplier

SPEX CERTIPREP

203 Norcross Avenue

Metuchen, NJ 08840

SPEX CERTIPREP LTD

2 Dalston Gardens

Stanmore, Middlesex, HA7 1BQ

England

Tel: 0181 204 9517

**SECTION 2**

**COMPOSITION/INFORMATION ON INGREDIENTS**

**HAZARDOUS:**

MATERIAL	%	TLV UNITS	CAS #	EINECS
HNO <sub>3</sub>	<1	5 mg/m <sup>3</sup>	[7697-37-2]	(231-714-2)
NH <sub>4</sub> F • HF	1	2.5 mg (F)/m <sup>3</sup>	[1341-49-]	

**NONHAZARDOUS:**

Water	~98	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.

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.

**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

ZENKIAZ-6 Cont'd

**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.

Ammonium Bifluoride may become corrosive in presence of moisture. Dust may cause irritation with coughing and shortness of breath.

**TOXICITY DATA:**

Concentrated HNO<sub>3</sub>—RTECS#-QU5775000      NH<sub>4</sub>F • HF --RTECS# BQ9200000  
orl-hmn LDLo: 430 mg/kg  
unk-man LDLo: 110 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. (Nitric acid solution)

**Ground:**

CLASS 8  
UN/ID Number: 3264  
Packing Group: III

Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (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, 3<sup>rd</sup> 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:** December 9, 2008

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

**800 ppb of Beryllium Standard**

**SECTION 1**

**CHEMICAL IDENTIFICATION OF THE SUBSTANCE/PREPARATION**

**NAME:** Custom Claritas Standard —Single-Element Solution: 800ppb of Beryllium, in a solution of 1% Ammonium Bifluoride and trace amounts of Nitric acid, all in water.

**CHEMICAL FAMILY:** Dilute acid solution

**COMMON NAME OR SYNONYMS:** Ammonium hydrogen difluoride

**SPEX CERTIPREP CATALOG NUMBER:** ZENKIAZ-7

Manufacturer/Supplier

SPEX CERTIPREP

203 Norcross Avenue

Metuchen, NJ 08840

SPEX CERTIPREP LTD

2 Dalston Gardens

Stanmore, Middlesex, HA7 1BQ

England

Tel: 0181 204 9517

**SECTION 2**

**COMPOSITION/INFORMATION ON INGREDIENTS**

**HAZARDOUS:**

MATERIAL	%	TLV UNITS	CAS #	EINECS
HNO <sub>3</sub>	<1	5 mg/m <sup>3</sup>	[7697-37-2]	(231-714-2)
NH <sub>4</sub> F • HF	1	2.5 mg (F)/m <sup>3</sup>	[1341-49-7]	(215-676-4)

**NONHAZARDOUS:**

Water	~98	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.

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.

**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

ZENKIAZ-7 Cont'd

**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.

Ammonium Bifluoride may become corrosive in presence of moisture. Dust may cause irritation with coughing and shortness of breath.

**TOXICITY DATA:**

Concentrated HNO<sub>3</sub>—RTECS#-QU5775000

NH<sub>4</sub>F • HF --RTECS# BQ9200000

orl-hmn LDLo: 430 mg/kg

No data available

unk-man LDLo: 110 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. (Nitric acid solution)

**Ground:**

CLASS 8

UN/ID Number: 3264

Packing Group: III

Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (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**

SPEX CERTIPREP ASSUMES NO RESPONSIBILITY AND MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AS TO THE ACCURACY OR COMPLETENESS OF THE DATA CONTAINED HEREIN. INDICATED SAFETY MEASURES MAY NOT REFLECT ALL APPROPRIATE SAFETY MEASURES. SPEX CERTIPREP ASSUMES THAT ONLY QUALIFIED INDIVIDUALS, TRAINED AND FAMILIAR WITH PROCEDURES SUITABLE TO THIS PRODUCT, WILL HANDLE THIS PRODUCT.

**References:**

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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, 3<sup>rd</sup> 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:** December 9, 2008