Material Safety Data Sheet Avesta Pickling Bath 302

This Safety Data Sheet contains information to help users understand the potential hazards relating to this product and provides advice for risk management. This information must be shown to or made available to those who may come into contact with the material or are responsible for the material. This Safety Data Sheet is prepared in accordance with GHS, as adopted by the UN Economic and Social Council (ECOSOC) in July 2003 and being implemented into the US under OSHA Hazard Communication Standard 29CFR1910.1200 and being implemented into Canada to meet the legal obligations under WHMIS (Workplace Hazardous Materials Information System.

Reference is also made to the current OSHA requirements, with classification to NFPA standards and also to the Canadian WHMIS Classification as part of transitional arrangements.

1. Identification of the Substance and Supplier

Trade name	Avesta Pickling Bath 302
Description	Clear colourless liquid containing a mixture of strong inorganic acids for metal treatment
Issue date:	**2011-08-15**, **2**
Manufacturer:	Avesta Finishing Chemicals Lodgatan 14, 211 24 Malmo, Sweden Tel: +46 (0)40 28 83 00 Web: www.avestafinishing.com Email: safety@avestafinishing.com
Supplier US/Canada:	Avesta Welding LLC 10401 Greenbough Drive Stafford, TX 77477 USA Tel: 1 (281) 208-3300 Fax: 1 (281) 208-3328 Web www.avestawelding.com Email: safety@avestafinishing.com

In case of emergency: CHEMTREC: 1 (800) 424-9300

In case of non-emergency assistance: 1 (800) 441-7343 or 716-827-4400

2. Hazards Identification

The product is considered dangerous if in contact with skin, eyes or if ingested.

NFPA RATING:	Health = 3 Flammability = 0 Reactivity = 0
HMIS RATING:	Health = 3 Flammability = 0 Reactivity = 0
Classification WHMIS	Class D, Poisonous Material Division 1A, Very Toxic Material Class E, Corrosive
Classification GHS	DANGER Skin Corrosion, Category 1A Acute toxicity, Category 3 Toxic if swallowed, Toxic in contact with skin, Toxic if inhaled Causes severe skin burns and eye damage
Classification EU	C Corrosive, R35 T Toxic, R23/24/25

Contact with skin and eyes may cause severe damage without rapid first aid. Inhalation of spray may cause irritation to the respiratory tract. Ingestion will lead to damage of the GI tract and will be toxic if swallowed. There are no known long-term health effects resulting from exposure.

The product is not considered as Dangerous to the Environment, although due to the acidic nature of the product, care should be taken to avoid direct loss to the environment.

3. Composition

CAS	Name	Content	Class (GHS)	WHMIS
7697-37-2	Nitric acid	40-50%	Category 3 Oxidising	Class C, Oxidising material
			Category 1 Corrosive	Class E, Corrosive
7664-39-3	Hydrofluoric acid	10-15%	Category 1 Acute Toxic	Class D, 1A Very Toxic
			Category 1 Corrosive	Class E, Corrosive

Solution in water

The classification descriptions given in this section relate to the components in their pure form and do not correspond to the classification of this preparation.

4. First Aid Measures

Inhalation

If exposed to spray or fumes, move to area of fresh air. If any signs of adverse effect, obtain medical advice. Treatment should be consistent with effects from acid exposure.

Skin contact

Wash skin immediately with water and keep affected areas under flowing water.

Obtain medical advice if continued signs of irritation or discomfort are noted. Treatment should be consistent with effects from acid exposure.

Wash clothing before re-use.

Eye contact

Flush eyes immediately with plenty of water for at least 15 minutes.

Seek immediate medical advice. Treatment should be consistent with effects from acid exposure.

Ingestion

If swallowed, rinse mouth thoroughly and drink small quantity of water (500 ml).

Obtain medical advice immediately.

Note to medical staff: Treat as for hydrofluoric acid. Rapid first aid is essential in case of contact.

5. Fire fighting Measures

Not flammable

Extinguishing media

If in the vicinity of a fire, there are no known adverse reactions to any normal extinguishing media. . The material is not known to be reactive with any extinguishing media.

Special exposure hazards (*from the material or its combustion products*)

Normal combustion products are not considered to be specifically hazardous.

Special precautions for fire fighters

None

6. Accidental release measures

Personal precautions

Remove unnecessary personnel away from area of spill or contamination.

During cleaning, protective clothing should be worn to avoid contact with skin and eyes.

Environmental precautions

Prevent spilled material or washings entering water courses or storm-water drainage systems. Diluted product and washings may be discharged into foul-water systems leading to waste water treatment plants.

Methods for cleaning up

Spills of up to 5 litres can be rinsed away to waste water drains with large quantities of water. If not possible, absorb onto sand, sawdust or other suitable material. Residues should be collected and disposed of as chemical waste in suitably labelled containers. If the spillage is greater than 5 litres, contain spill and call in trained personnel. Follow supplier recommendations for neutralisation.

The area contaminated by the spill should be washed with water.

7. Handling and storage

Handling

Other than the use of goggles, acid resistant gloves and coveralls, no special handling precautions are required. See section 8 for more details.

Storage

Store in original containers between 0 – 30°C. No special precautions.

8. Exposure controls/personal protection

Hydrofluoric acid

Canadian Exposure Limits

Alberta	3 ppm Ceiling 2.3 mg/m^3 as fluoride
British Columbia	2 ppm Ceiling as hydrogen fluoride
Ontario	0.5 ppm TWA 2ppm Ceiling as hydrogen fluoride
Quebec	3 ppm Ceiling 2,6 mg/m^3 as fluoride, recirculation prohibited

US Exposure Limits

OSHA Permissible Exposure Limit (PEL): 3 ppm (TWA) as hydrogen fluoride:
ACGIH Threshold Limit Value (TLV): 3 ppm Ceiling as fluorine

DNEL has not been determined, but no long term health effects are known.

Nitric acid

Canadian Exposure Limits

Alberta	2ppm, 5.2 mg/m^3 (TWA), 4 ppm, 10 mg/m^3 (STEL)
British Columbia	2 ppm (TWA), 4 ppm (STEL)
Ontario	2 ppm, 5 mg/m^3 (TWA) 4 ppm, 10 mg/m^3 STEL
Quebec	2ppm, 5.2 mg/m^3 (TWA), 4 ppm, 10 mg/m^3 (STEL)

US Exposure Limits

OSHA Permissible Exposure Limit (PEL): 2 ppm (TWA), 4 ppm (STEL)
ACGIH Threshold Limit Value (TLV): 2 ppm (TWA); 4 ppm (STEL)

DNEL has not been determined, but no long term health effects are known.

Respiratory protection

None required during normal handling. Use in well ventilated areas and avoid formation of spray, aerosols or fumes.

Hand protection

Suitable chemical resistant gloves recommended for use with acid materials and resistant to acids. Change gloves in accordance with manufacturer recommendations. If gloves are damaged during use, remove immediately and wash hands before replacing with new gloves.

Eye protection

Goggles must be worn when handling this product.

Skin protection

Coveralls recommended. These should be changed after use or if contaminated. Wash before re-use.

Environmental exposure controls

When handling small quantities (less than 5 litres), no special precautions required. If handling bulk material, precautions should be taken to avoid accidental release to water courses.

9. Physical and Chemical Properties

Appearance	Clear to light yellow liquid
Freezing point	< 0°C
Boiling point	Ca 100°C, fluid – gas vapour release for nitric acid 50 – 60 °C
Relative density	1.2- 1.3 kg/l
Water solubility	Miscible in water, pH 0
Flash point	> 100°C
Vapour pressure	Acid fumes may be released, especially at elevated temperatures

10. Stability and Reactivity

Conditions to avoid

The material is considered to be stable under normal conditions. Store away from direct sunlight and avoid elevated temperatures

Materials to avoid

Avoid contact with alkaline materials and strong oxidising or reducing agents.

Hazardous decomposition products

None known

11. Toxicological Information

The preparation has not been tested but the effects can be estimated using the criteria covered by GHS and through estimation from the EU Preparations Directive 2001/59/EC. Corrosive effects are predicted through consideration of the very low pH.

Toxicity values for the individual components

Hydrofluoric acid

LC50 (inhalation, mouse, 1 hour)	279 mg/m^3
LC50 (inhalation, rat, 1 hour)	792-1909 mg/m^3
LC50 (inhalation, monkey, 1 hour)	1470 mg/m^3
LC50 (inhalation, guinea pig, 15 minutes)	3540 mg/m^3

Nitric acid

LDL0 (human)	430 mg/kg
LC50 (inhalation, rat, 4 hour)	0.18 mg/l

Acute oral toxicity	Corrosive; considered toxic if swallowed
Eyes	Will cause severe eye damage to low pH
Skin	Considered corrosive to skin, GHS Category 1A
Sensitiser	None of the components are considered to be sensitisers
Inhalation	Inhalation of vapours, spray or aerosol may cause severe irritation to respiratory tract. Considered toxic by inhalation. Symptoms of pulmonary oedema may be delayed up to 48 hours after exposure.
Long-term toxicity	Long term exposure to acid vapours may cause chronic respiratory irritation and dental erosion. Chronic ingestion of fluoride salts may result in fluorosis.
	None of the components are listed as CMR*
	(*Carcinogenic, mutagenic or reproductive toxin)

12. Ecological Information

The preparation has not been tested but there are no components present at concentrations that will cause the preparation to be classified as Dangerous to the Environment. The low pH may cause local damage if released into the environment.

There are no components considered to be persistent or bioaccumulative.

Toxicity values for the individual components

Hydrofluoric acid

LC50 (Oncorhynchus mykiss, 96 hr) 51 mg/l
LC50 (Oncorhynchus mykiss, 96 hr) 108 mg/l
LC50 (Salmo trutta, 96 hr) 165 mg/l
LC50 (Gasterosteus aculeatus, 96 hr) 340 mg/l
EC50 (Daphnia magna) 97 mg/l
EC50 (Daphnia magna) 153 mg/l

Nitric acid

LC50 (Gambusia affinis, 96 hr) 72 mg/l
LC50 (Shore crab, 48 hr) 180 mg/l

13. Disposal Considerations

It is recommended to dispose of small quantities of this material (< 5 litres) by flushing with an excess of water to foul drainage. A dilution factor of 100 is recommended. Larger quantities of waste should be treated as hazardous chemical waste in a manner

that complies with local regulations. Advice should be sought from local agencies.

The containers should be rinsed thoroughly with water and can be disposed of as non-hazardous waste.
Careful neutralisation may be possible. Follow supplier recommendations.

14. Transport Information

International regulations (UN)

UN-Classification No:
2922

Classification Code:
CT1

Proper shipping name:
CORROSIVE LIQUID, TOXIC N.O.S. (Hydrofluoric acid, nitric acid).

Packaging group:
II

IMDG (Sea):
Class 8 (6.1) EmS F-A, S-B
Marine Pollutant: No

ADR/RID (road, rail):
Class 8 (6.1)

IATA/DGR (air):
Class 8 (6.1)

Additional information:
The product is to be transported according to dangerous goods regulations.

15. Regulatory Information

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Classification GHS

DANGER
Skin Corrosion, Category 1A
Causes severe skin burns and eye damage

DANGER :
Acute toxicity, Category 3
Toxic if swallowed
Toxic in contact with skin
Toxic if inhaled

NFPA RATING: Health = 3 Flammability = 0 Reactivity = 0

HMIS RATING: Health = 3 Flammability = 0 Reactivity = 0

WHMIS

Class D
Poisonous Material
Division 1, A Very Toxic Material

Class E, Corrosive

The chemicals in this product are listed on the US TSCA Chemical Substances Inventory, the Canadian Domestic Substances List and European EINECS.

Classification EU Corrosive, R35 T+Very Toxic, R26/27/28

16. Other Information

Details of EU R phrases in Section 2 and Section 15,

R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R35	Causes severe burns

Check instructions for use before using.

Changes since last revision in: 4 and 14
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