

Safety Data Sheet

acc. to OSHA HCS



Printing date 03/09/2016

Reviewed on 02/16/2016

1 Identification

- **Product identifier**
- **Trade name: Avesta Pickling Spray 204**
- **Application of the substance / the mixture** Surface treatment of stainless and high alloyed steels
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
voestalpine Böhler Welding Nordic AB
Lodgatan 14
SE-211 24 Malmö, Sweden
Tel: +46 (0)40 - 28 83 00
Fax: +46 (0)40 - 93 94 24
www.voestalpine.com/welding
- **Information department:**
Mirna Castro
+46 (0) 40 28 83 11; Mirna.Castro@voestalpine.com
- **Emergency telephone number:** Tel: +44-8701906800 (English)

2 Hazard(s) identification

- **Classification of the substance or mixture**
Acute Tox. 2 H310 Fatal in contact with skin.
Acute Tox. 3 H331 Toxic if inhaled.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
- **Label elements -**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

GHS05

GHS06
- **Signal word** Danger
- **Hazard-determining components of labeling:**
nitric acid
hydrogen fluoride
- **Hazard statements**
Fatal in contact with skin.
Toxic if inhaled.
Causes severe skin burns and eye damage.
- **Precautionary statements**
Do not breathe mist/vapours/spray.
Wear protective gloves / protective clothing.
Wear eye protection / face protection.
Do not get in eyes, on skin, or on clothing.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
Specific treatment (see on this label).

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/09/2016

Reviewed on 02/16/2016

Trade name: Avesta Pickling Spray 204

(Contd. of page 1)

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

Take off immediately all contaminated clothing and wash it before reuse.

Store locked up.

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

Dispose of contents/container in accordance with local/regional/national/international regulations.

· NFPA ratings (scale 0 - 4)

Health = 3

Fire = 0

Reactivity = 0

· HMIS-ratings (scale 0 - 4)

Health = 4

Fire = 0

Reactivity = 0

· Other hazards**· Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures**· Description:** Mixture of the substances listed below with nonhazardous additions.**· Dangerous components:**

CAS: 7697-37-2 EINECS: 231-714-2	nitric acid Ox. Liq. 3, H272 Met. Corr. 1, H290; Skin Corr. 1A, H314	12.5-25%
CAS: 7664-39-3 EINECS: 231-634-8	hydrogen fluoride Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330 Met. Corr. 1, H290; Skin Corr. 1A, H314	5-12.5%

· nonhazardous components:

Inorganic binder 5-15 %

Water Rest

4 First-aid measures

· Description of first aid measures**· General information:***Immediately remove any clothing soiled by the product.**Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.**Remove breathing apparatus only after contaminated clothing have been completely removed.**In case of irregular breathing or respiratory arrest provide artificial respiration.**Seek medical treatment.***· After inhalation:***Supply fresh air or oxygen; call for doctor.**In case of unconsciousness place patient stably in side position for transportation.***· After skin contact:***Immediately wash with water and soap and rinse thoroughly.*

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/09/2016

Reviewed on 02/16/2016

Trade name: Avesta Pickling Spray 204

(Contd. of page 2)

Seek immediate medical advice.

After rinsing with water. Rub in Ca-gluconate solution or Ca-gluconate gel immediately.

If available rinse with Avesta First Aid spray or Hexafluorine instead of water.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Do not induce vomiting; immediately call for medical help.

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

Seek medical treatment.

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Suitable to surrounding conditions

· **Special hazards arising from the substance or mixture**

Nitrogen oxides (NO_x)

Hydrogen fluoride (HF)

· **Advice for firefighters**

· **Protective equipment:**

Mouth respiratory protective device.

Wear fully protective suit.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Pick up mechanically.

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Ensure that suitable extractors are available on processing machines

· **Information about protection against explosions and fires:** The product is not flammable.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/09/2016

Reviewed on 02/16/2016

Trade name: Avesta Pickling Spray 204

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Prevent any seepage into the ground.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store under lock and key and with access restricted to technical experts or their assistants only.
Store in 5-35° C. Heat and sunlight will increase pressure and may lead to the bottle to swell.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection· **Control parameters**· **Components with limit values that require monitoring at the workplace:****7697-37-2 nitric acid**

PEL	Long-term value: 5 mg/m ³ , 2 ppm
REL	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5 mg/m ³ , 2 ppm
TLV	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5.2 mg/m ³ , 2 ppm

7664-39-3 hydrogen fluoride

PEL	Long-term value: 3 ppm as F
REL	Long-term value: 2.5 mg/m ³ , 3 ppm Ceiling limit value: 5* mg/m ³ , 6* ppm *15-min, as F
TLV	Long-term value: 0.41 mg/m ³ , 0.5 ppm Ceiling limit value: 1.64 mg/m ³ , 2 ppm as F; Skin, BEI

· **Ingredients with biological limit values:****7664-39-3 hydrogen fluoride**

BEI	3 mg/g creatinine Medium: urine Time: prior to shift Parameter: Fluorides (background, nonspecific)
	10 mg/g creatinine Medium: urine Time: end of shift Parameter: Fluorides (background, nonspecific)

- **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/09/2016

Reviewed on 02/16/2016

Trade name: Avesta Pickling Spray 204

(Contd. of page 4)

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Filter B
Filter P2

- **Protection of hands:**



Protective gloves

Heat protection gloves (non-combustible)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:**

Protective work clothing
Use protective suit.

Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, and well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Pungent
Odor threshold:	Not determined.

- **pH-value at 20 °C (68 °F):** 0

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower: Not determined.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/09/2016

Reviewed on 02/16/2016

Trade name: Avesta Pickling Spray 204

(Contd. of page 5)

Upper:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Water:	Fully miscible.

- **Partition coefficient (n-octanol/water):** Not determined.
- **Dynamic at 20 °C (68 °F):** 10000 mPas
- **Kinematic:** Not determined.
- **Organic solvents:** 0.0 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Reacts with various metals.
Develops corrosive gases / fumes.
When diluting, always add acid to water, never vice versa.
Reacts with alkali and metals.
- **Conditions to avoid** Attacks materials containing glass and silicate.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Nitrogen oxides
Hydrogen fluoride
Nitrogen oxides (NOx)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

7664-39-3 hydrogen fluoride

Oral LD50 1276 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/09/2016

Reviewed on 02/16/2016

Trade name: Avesta Pickling Spray 204

(Contd. of page 6)

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information· **Toxicity**· **Aquatic toxicity:** No further relevant information available.· **Persistence and degradability** No further relevant information available.· **Behavior in environmental systems:**· **Bioaccumulative potential** Not known to be bioaccumulative· **Mobility in soil** No further relevant information available.· **Additional ecological information:**· **General notes:**

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Water hazard class 2 (Self-assessment): hazardous for water

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

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.**13 Disposal considerations**· **Waste treatment methods**· **Recommendation:** Must be specially treated adhering to official regulations.· **Uncleaned packagings:**· **Recommendation:** Disposal must be made according to official regulations.· **Recommended cleansing agent:** Water, if necessary with cleansing agents.**14 Transport information**· **DOT, ADR, IMDG, IATA**

UN2922

· **UN proper shipping name**· **DOT, IATA**

Corrosive liquids, toxic, n.o.s. (Hydrofluoric acid, Nitric acid)

· **ADR**

2922 Corrosive liquids, toxic, n.o.s. (Hydrofluoric acid, Nitric acid)

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/09/2016

Reviewed on 02/16/2016

Trade name: Avesta Pickling Spray 204

(Contd. of page 7)

· **IMDG**

CORROSIVE LIQUID, TOXIC, N.O.S. (HYDROFLUORIC ACID, NITRIC ACID)

· **DOT**· **Class**

8 Corrosive substances

· **Label**

8, 6.1

· **ADR**· **Class**

8 Corrosive substances

· **Label**

8+6.1

· **IMDG**· **Class**

8 Corrosive substances

· **Label**

8/6.1

· **Class**

8 Corrosive substances

· **Label**

8 (6.1)

· **Packing group**· **DOT, ADR, IMDG, IATA**

II

· **Environmental hazards:**· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Corrosive substances

· **Danger code (Kemler):**

86

· **EMS Number:**

F-A, S-B

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

Not dangerous according to the above specifications.

· **ADR**· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **IMDG**· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/09/2016

Reviewed on 02/16/2016

Trade name: Avesta Pickling Spray 204

(Contd. of page 8)

· **UN "Model Regulation":**UN 2922 CORROSIVE LIQUIDS, TOXIC, N.O.S.
(HYDROFLUORIC ACID, NITRIC ACID), 8 (6.1), II

15 Regulatory information

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

No further relevant information available.

· **Sara**· **Section 355 (extremely hazardous substances):**

7697-37-2 | nitric acid

· **Section 313 (Specific toxic chemical listings):**

7697-37-2 | nitric acid

· **TSCA (Toxic Substances Control Act):**

7697-37-2 | nitric acid

· **Proposition 65**· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogeny categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).· **Hazard pictograms**

GHS05 GHS06

· **Signal word** Danger· **Hazard-determining components of labeling:**

nitric acid

hydrogen fluoride

· **Hazard statements**

Fatal in contact with skin.

Toxic if inhaled.

Causes severe skin burns and eye damage.

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/09/2016

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Trade name: Avesta Pickling Spray 204

(Contd. of page 9)

Precautionary statements*Do not breathe mist/vapours/spray.**Wear protective gloves / protective clothing.**Wear eye protection / face protection.**Do not get in eyes, on skin, or on clothing.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**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.**Specific treatment (see on this label).**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**If swallowed: Rinse mouth. Do NOT induce vomiting.**Take off immediately all contaminated clothing and wash it before reuse.**Store locked up.**Store in a well-ventilated place. Keep container tightly closed.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Training hints -**Department issuing SDS:** QHES**Contact:** Mirna Castro**Date of preparation / last revision** 03/09/2016 / 1**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

TRGS: Technische Regeln für Gefahrstoffe (Technical Rules for Dangerous Substances, BAuA, Germany)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Ox. Liq. 3: Oxidising Liquids, Hazard Category 3

Met. Corr. 1: Corrosive to metals, Hazard Category 1

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 1: Acute toxicity, Hazard Category 1

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

*** Data compared to the previous version altered.**