

MATERIAL SAFETY DATA SHEET - according to ISO -11014-1 and 91/155/EEC

Trade name: **AVESTA PICKLING PASTE/GEL/SPRAY 101,122,130,204,214,215**
 Manufacturer: **AvestaPolarit Welding AB, Chemical Products**
 Date of issue: **1995.01.24**
 Revision date: **2001.06.12**

1. PRODUCT AND COMPANY IDENTIFICATION

Name of the product

Product name - code: AVESTA PICKLING
 PASTE/GEL/SPRAY 101,122,130,204,214,215

Anticipated package: 1, 2, 15, 20,25,180
 + 900 litres polyethylene containers
 Application: Pickling of stainless steel

Manufacturer

Name: AvestaPolarit Welding AB, Chemical Products
 Address: Lodgatan 14, 211 24 MALMÖ, Sweden
 Telephone Number: +46-40-93 94 30
 Telefax Number: +46-40-93 94 24
 Contact person: Sten Nilsson, Anders Bornmyr,
 Lesley Wendelrup

Emergency Number:

Australia 131126 (National)	(+33)-4-72116911 (Lyon)	New Zealand (+64)-3-4747000 (Dunedin)
(+61)-2- 98453594 (International)	Finland (+358)-92-414392 (Helsinki)	Poland (+48)-22-196654 (Warschau)
Austria (+43)-1-406 43 43 (Vienna)	Germany (+49)-89-19240 (Munich)	Portugal (+351)-1-7950143 (Lisboa)
Belgium (+32)-70-245-245 (Brussels)	(+49)-228-2873211 (Bonn)	Singapore (+65)-2235454
Brazil (+55)-41-2629594 (Rio de Janeiro)	Greece (+30)-1-7793777 (Athens)	South Africa
(+55)-11-280 38 22 (Sao Paulo)	Ireland (+353)-1-837 9964 (Dublin)	Spain (+34)-91-5620420 (Madrid)
Canada (+1)-613-996666 (Canutreck)	Israel (+972)-4-529205 (Haifa)	Sweden 020-996000 (National)
Czech Rep (+420) 2-293868 (Praha)	Italy (+39)-2-66101029 (Milan)	(+46)-8-337043 (International)
Denmark (+45)-35316060 (Copenhagen)	(+39)-6-3054343 (Rome)	UK (+44)-1-132450530 (Leeds)
France (+33)-1-40370404 (Paris)	Netherlands (+31)-30-2749111 (Bilthoven)	USA 800-424-9300 (Chemtrack)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation

Chemical nature: Strong acid paste / solution with corrosive properties.

Hazardous components	CAS-No.:	EEC-No.:	Contents:	Risk Code for the preparation /R-phrase:
Chemical name / formula			(Weight-%)	
Nitric acid / HNO ₃	7697-37-2	231-714-2	appr 15-25	C- corrosive / R 35
Hydrofluoric acid / HF	7664-39-3	231-634-8	appr 3-7	T - toxic / R23 / 24 / 25

Additional information: Classification according to directive 67/548/EEC

3. HAZARDS IDENTIFICATION

Health hazard in case of
 accidental exposure (R-phrases):

R 23/ 24/ 25 Toxic by inhalation, in contact with skin and if swallowed.
R35 Causes severe burns.

Environmental effects:
 Physical and chemical risks:

Pickling Fluid will strongly reduce pH in water. Must be neutralized.
 When heated nitrous gases can be developed. Only for treatment
 of stainless steel, not to be used on other metals.

MATERIAL SAFETY DATA SHEET - according to ISO -11014-1 and 91/155/EEC

Trade name: AVESTA PICKLING PASTE/GEL/SPRAY 101,122,130,204,214,215
Manufacturer: AvestaPolarit Welding AB, Chemical Products
Date of issue: 1995.01.24
Revision date: 2001.06.12

4. FIRST AID MEASURES

Measures to be taken immediately after the following ways of contact with pickling acids,

Inhalation: Fresh air and rest. Rinse nose and mouth with water. Possibly breathing help, oxygen. Seek medical care also if only smaller troubles occur.
Ingestion: Drink at once, preferably milk, or water. Thereafter 10-15 lime tablets dissolved in water. Do not cause vomiting. Seek medical care.

Skin contact: -Alternative A : Rinse immediately off with AVESTA FIRST AID SPRAY 910. Spray the content liberally onto the affected area, always using the complete content. Avoid rinsing with water first as it reduces the effect of the solution. If not available see alt B.

- Alternative B: Rinse immediately off with plenty of water then treat with 2,5% Calcium Gluconate gel.

After alt. A, B seek medical help.

Eye contact: Treat with AVESTA FIRST AID SPRAY (Supplier: AvestaPolarit.) or if not available ,rinse immediately with plenty of water for at least 15 minutes. Thereafter immediate medical care - eye doctor.

Information for medical care: Inform the doctor that the injury has been caused by contact with Hydrofluoric and Nitric acid solution. Anti-dote treatment after contact with Hydrofluoric acid is HEXAFLUORINE? .

5. FIRE-FIGHTING MEASURES

Danger of fire/explosion: Fluid is non-flammable. In contact with metals hydrogen gas is formed in small quantities, which together with air can give an explosion. Bottles close to fire should be removed or cooled with water.
Extinguishing media: Released product should be neutralised with caustic soda.

Chemical exposure risks caused by
 -the product itself: The Pickling Fluid will cause corrosive damage on skin-contact.
 -released gases/vapours: The Pickling Fluid will emit toxic fumes and nitrous gases in the presence of heat/fire.

Protective clothing for the firemen: Normal protective clothing. Breathing protection: Gas mask with filter of chlorine type B (grey) and dust filter P2, according to CEN (Central European Norms).

How to clean or destroy soiled fire equipment: Thoroughly wash with water.

MATERIAL SAFETY DATA SHEET - according to ISO -11014-1 and 91/155/EEC

Trade name: AVESTA PICKLING PASTE/GEL/SPRAY 101,122,130,204,214,215
Manufacturer: AvestaPolarit Welding AB, Chemical Products
Date of issue: 1995.01.24
Revision date: 2001.06.12

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid direct contact. Wear eye protection, skin-protection, rubber gloves and breathing apparatuses. Keep a good ventilation.

Environmental precautions (water, air, soil): Prevent spillage from entering sewage or public waters.

Methods for cleaning up: Neutralize with caustic soda. Embank with sand. Arrange for pick up. Rinse with plenty of water.

Spillage and decontamination: Spillage should be picked up and disposed of in full compliance with federal, state and local regulations as acid waste.

7. HANDLING AND STORAGE

Handling

Technical measures: Working place and methods should be worked out in order to avoid direct contact. Keep good ventilation. A closed rinse water system with filtration and reuse of clear water is recommended.

To prevent fire and explosion: Bottles close to fire should be removed or cooled with water.

Precautions: Avoid fume generation and accumulation by using in a well ventilated area. Use in areas having local exhaust and general ventilation. AVESTA FIRST AID SPRAY (supplier Avesta Welding AB) for both eyes and skin, should be available at the premises.

Possibilities to rinse the eyes with water must be available at the working place

Storage

Technical measures: Storage room should be kept separate, warm, dry and closed to unauthorised persons.

Incompatible products: Not applicable

Storage conditions: Keep containers securely closed when not in use and in upright position. Store in areas where temperature remain between 0-40 ° C at all time.

Packaging materials: Package material must be of acid resistant plastic material.

Shelf life: At least 1 year in unopened bottle correctly stored.

MATERIAL SAFETY DATA SHEET - according to ISO -11014-1 and 91/155/EEC

Trade name: AVESTA PICKLING PASTE/GEL/SPRAY 101,122,130,204,214,215
Manufacturer: AvestaPolarit Welding AB, Chemical Products
Date of issue: 1995.01.24
Revision date: 2001.06.12

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures: Adding Avesta Indicator - 701 will reduce the formation of nitrous fumes

Control parameters: Limiting values: CLV 1.7 mg/m³ (8 hours) Hydrofluoric acid
 LLV 5 mg/m³ (15 min.) Nitric acid

Personal protective equipment

Respiratory protection: Gas mask with a filter of the chlorine type B (grey) and dust filter P2
Hand protection: Rubber gloves
Eye protection: Face shield
Skin and body protection: Rubber boots and acid resistant clothes, which covers all body parts exposed to splashes.

Specific hygienic measures: Do not inhale fumes, avoid contact with eyes, skin and clothes.
 It is not allowed to eat, drink and smoke at workplace. Remove contaminated clothes immediately. Wash hands and face thoroughly after working with pickling paste.
 AVESTA FIRST AID SPRAY should be available at the premises.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20 ° C Blue paste with a minor pungent smell.
(form, colour, smell):
Boiling point: 80-100 ° C
Flash point / Explosion properties: Not applicable
Specific temperatures - Solid-fluid 40 ° C
 fluid-gas 50-60 ° C (nitric fumes)
 changes in physical state
Vapour pressure at 20 ° C: < 0.01 kPa
pH: 0 at 20 ° C
Density: (N.B difficult to measure !) 1,2-1,4 g/cm³ at 20 ° C
Viscosity 30 rpm at 23 ° C : dynamic 1700-2300 mPa.s
 kinematic 0.0013-0.0018 m² / s
Solubility: in water at 20 ° C 90 weight % in organic solvents not applicable

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions, polymerization will not occur.
Conditions to avoid: Avoid high temperatures, must not be exposed to direct sunshine.
 When heated nitrous gases will be developed.
Material to avoid: Alkaline compounds and water, will give an exothermic reaction, with heat development.
Hazardous decomposition products: Will emit nitrous gases.

MATERIAL SAFETY DATA SHEET - according to ISO -11014-1 and 91/155/EEC

Trade name: AVESTA PICKLING PASTE/GEL/SPRAY 101,122,130,204,214,215
Manufacturer: AvestaPolarit Welding AB, Chemical Products
Date of issue: 1995.01.24
Revision date: 2001.06.12

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD₅₀ (orally): 500-800 mg/kg
LC₅₀ (dermal): 200-400 ppm/1h
Reference: Index method according to WHO, health criteria 6.

Local effects

Effects on the skin: Gives corrosive damages with yellowish discoloration of the skin, blisters and slow-healing wounds.

Effects on the eyes: Gives intensive pain and corrosive damages. Risk of irreparable damage to the eyes.

After ingestion: Gives corrosive damages with burning pain, possibly severe general effect and damage to kidneys and liver.

Upon inhalation: Inhalation of fumes or mist might cause aches, cough and difficulty in breathing. Risk for oedema on the lungs.

Additional information: Symptoms will not appear immediately.

12. ECOLOGICAL INFORMATION

Environmental effects

Mobility: The product in its concentrated form will have a poison- influence on the ground and water. During usage the product will be diluted with water but will still lower the pH of ground-water and may not be discharged in clearwater system without pre-treatment.

Ecotoxicity: LC₅₀ for fish (96 h) = 500-700mg / L
(Valid for the product as a concentrate, during usage it will be diluted >1:10)

Persistence/ degradability: Will be protolized in water to H⁺, NO₃⁻, F⁻.

Bioaccumulation: The product is not regarded as bioaccumulative

13. DISPOSAL CONSIDERATIONS

Methods of removal

Waste from residues: Contaminated residues, water waste must be neutralized to correct its pH-value pH 6-11, and heavy metals resulting from the cleaning of stainless steel should be removed.
Neutralize with Avesta Neutralizing Agent or slaked lime.

Contaminated packing: Rinse of with plenty of water.

MATERIAL SAFETY DATA SHEET - according to ISO -11014-1 and 91/155/EEC

Trade name: AVESTA PICKLING PASTE/GEL/SPRAY 101,122,130,204,214,215
Manufacturer: AvestaPolarit Welding AB, Chemical Products
Date of issue: 1995.01.24
Revision date: 2001.06.12

Additional information: A filtration system for rinse water is recommended. Effluent must be separated and disposed of as acidic waste. Consult with your local authorized and licensed waste disposal agency and ministry of environment for instructions and procedures for approved waste disposal.

14. TRANSPORT

International regulations (UN)

UN-Classification No.: 1790
Packaging group: II
IMDG(Sea): Class 8 Page 8184 EmS No. 8-03 MFAG No. 750
ADR/RID (road, rail): Class 8, 7 (b)
IATA/DGR (air): Class 8 - 1790
Additional information: The product is to be transported according to dangerous goods regulations.

15. REGULATORY INFORMATION

Regulations

Hazard and safety information: According to handling of dangerous goods.
Danger symbols: T and C
Sentences expressing the risks: **R 23/24/25 , 35**

Sentences about safety measures: **S1/2 Keep locked up and out of the reach of children.**
S 7/47 Keep container tightly closed and at temperature not exceeding 45° C.
S23 Do not breathe fumes
S26 In case of contact with eyes rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S61 Avoid release to environment. Refer to special instructions/safety data sheet

16. OTHER INFORMATION

Training advice: The Avesta Handbook for pickling of stainless steel.
Avesta Handbook-Pickling Workshop
Recommended applications and restrictions: Only for pickling of stainless steel, not to be used on other metals.

Basic information sources used to draw up the information cards:
- Standard Practice for cleaning stainless steel (ASTM-A-380)
- Fluorides WHO (Env. Health Criteria 36)
- International Standard ISO 11014-1
- EC Commission Directive 91/155/EEC