

Material Safety Data Sheet

Passivator 601

1. IDENTIFICATION OF PREPARATION AND COMPANY

Product identifier: Transparent liquid
Trade name: Avesta Classic Passivating Agent 601
Application and use: Passivation of stainless steel
Issue date/No: 2010-02-03, 1
Manufacturer: **Böhler Welding Group Nordic AB**
 Avesta Finishing Chemicals
 Lodgatan 14, 211 24 MALMÖ, Sweden
 Telephone: +46 (0)40 288 300
 E-mail: safety@avestafinishing.com
Emergency number: +46-8-331 231

2. HAZARDS IDENTIFICATION

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

R35 Causes severe burns. See also section 11.

Environmental effects:

Passivation Fluid will strongly reduce pH in water. Must be neutralised. See also section 12.

Physical and chemical risks:

When heated nitrous gases can be developed. Only for treatment of stainless steel, not to be used on other metals.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation

Chemical nature:

Liquid with corrosive properties.

Hazardous components, chemical name, formula	CAS No.	EC No.	Contents weight-%	Hazard symbol/ Risk phrase*
Nitric acid, HNO ₃	7697-37-2	231-714-2	20-40	O, C: R8, R35

*The full texts of the phrases are shown in section 16.

Additional information:

Classification according to directive 67/548/EEC.

Symbols and risk phrases are for concentrated substances.

4. FIRST AID MEASURES

Measures to be taken immediately after the following ways of contact with passivation acids.



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Inhalation:

Remove to fresh air. Keep victim lying down, quiet and warm. Rinse nose and mouth with water. Might require assistance with breathing. Seek medical care even if only slight inconvenience occur.

Ingestion:

If victim is conscious and alert, immediately give a couple of glasses of cream, milk or water to drink. Thereafter 10-15 lime tablets dissolved in water. Do not induce vomiting. Get medical aid immediately.

Skin contact:

Remove all contaminated clothing immediately. Wash off with plenty of soap and water. Always seek medical advice. Launder clothes before reuse.

Eye contact:

Rinse immediately with plenty of water for at least 15 minutes. Keep eyelids apart. Seek immediate medical care (eye specialist). Keep rinsing during transport.

Information for medical care:

Inform that the injury has been caused by contact with nitric acid solution.

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 cause explosion. Containers close to fire should be removed or cooled with water.

Extinguishing media:

Water, foam or dry powder. Use extinguishing media most appropriate for the surrounding fire.

Chemical exposure risks caused by the product itself:

The Passivation Fluid will cause corrosive damage on skin-contact.

Chemical exposure risks caused by hazardous combustion products:

The Passivation Fluid will emit toxic fumes and nitrous gases in the presence of heat/fire. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

Protective clothing for firemen:

Appropriate protective clothing and breathing apparatus should be used.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Avoid direct contact. Wear eye-protection, skin-protection, rubber gloves and breathing apparatuses as indicated in section 8. Keep good ventilation. See also handling section 7.



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Environmental precautions (water, air, soil):

Prevent spillage from entering sewage or public waters.

Methods for cleaning up:

Neutralise with Avesta Neutraliser 502 or a strong alkaline compound i.e. slaked lime. 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. See section 13.

7. HANDLING AND STORAGE

Handling

Technical measures:

Working place and methods should be worked out in order to avoid direct contact. Work and storage area should be well ventilated. A closed rinse water system with filtration and reuse of clear water is recommended.

To prevent fire and explosion:

Containers close to fire should be removed or cooled with water. Avoid contact with clothing or other combustible materials. Keep containers closed.

Precautions:

Avoid fume generation and accumulation by using in a well-ventilated area. Use in areas having local exhaust and general ventilation.

Emergency eyewash and safety shower must be available at the working place.

Storage

Technical measures:

Storage room should be kept separate, cool, dry and closed to unauthorised persons.

Incompatible products:

Metals (other than stainless steel), Alkaline compounds, organic materials.

Storage conditions:

Keep containers securely closed when not in use and in upright position. Store in areas where temperature remains between 0-30°C at all times.

Packaging materials:

Packaging material must be of acid resistant plastic material.

Specific use:

Contact the manufacturer for more information.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering controls:

Local exhaust ventilation is recommended.

Exposure limits:

Nitric Acid, Cas No 7697-37-2

UK, WEL: STE 2,6 mg/m³

Sweden: LLV 5 mg/m³ , STE 13 mg/m³



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Personal protective equipment

Respiratory protection:

Gas mask with a filter of the chlorine type B (grey) and dust filter P2

Hand protection:

Acid resistant rubber-gloves.

Long and repeated exposure:

Trellchem HPS,VPS,TLU, Super

Exposure 1-4 hrs:

Viton, Butyl rubber.

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 passivation fluid.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (form, colour, smell) at 20°C:

Colourless liquid with a pungent smell.

Boiling point:

120°C

Flash point / Explosion properties:

Not applicable

Specific temperatures:

Fluid-gas 50-60°C (nitric fumes)

Vapour pressure at 20°C:

3mm Hg

pH:

0 at 20°C

Density:

1.1-1,3 g/cm³ at 20°C

Solubility in water at 20°C:

100 weight %

Solubility in organic solvents:

Not applicable.

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions, polymerisation will not occur.



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Conditions to avoid:

Avoid high temperatures, must not be exposed to direct sunshine. When heated nitrous gases will be developed.

Materials to avoid:

Metals (other than stainless steel), Alkaline compounds and water will give an exothermal reaction with heat development.

Hazardous decomposition products:

Will emit nitrous gases.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

LD50 (orally): 1460 mg/kg

LC50 (dermal): 170 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:

Causes 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.

CMR-effects:

Not listed as carcinogen (IARC).

Additional information:

Symptoms will not appear immediately.

12. ECOLOGICAL INFORMATION

Environmental effects

Ecotoxicity:

LC50 (96h) *Gambusia affinis* 72 mg/l

LC50 (48h) *Ictalurus sp.* 100-330 mg/l

Mobility:

The product in its concentrated form will have a poisonous 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 into the Clearwater system without pre-treatment.



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Persistence/degradability:

Will be protolized in water to H⁺, NO³⁻ .

Bioaccumulative potential:

The product is not regarded as bioaccumulative.

Results of PBT assessment:

See section 16.

Other adverse effects:

Not known

13. DISPOSAL CONSIDERATIONS

Methods of disposal

Product:

Discarded product and related waste is hazardous waste. Alloting of EWC-code should be made on the basis of the source causing the waste.

Suggested EWC-code is 11 01 05* Pickling acids.

Waste from residues:

Contaminated residues i.e. wastewater must be neutralised to correct its pH-value to pH 6-11. Neutralise with Avesta Neutraliser 502 or slaked lime.

Contaminated packing:

Rinse with plenty of water.

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 INFORMATION

International regulations (UN)

UN-Classification No:

2031

Classification Code:

CO1

Proper shipping name:

Nitric acid

Packaging group:

II

ADR/RID (road, rail):

Class 8

Tunnel restriction code:

(E)

IMDG (Sea):

Class 8, EmS: F-A, S-B, MP: No



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IATA/DGR (air):

Class 8

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.

Chemical Safety Assessment:

Has not been carried out for this product (or substances in the preparation).

Contents:

Nitric acid

Hazard symbols:



Corrosive

Risk phrases:

R 35: Causes severe burns.

Safety phrases:

S 1/2: Keep locked up and out of the reach of children.

S 7/47: Keep container tightly closed and at temperature not exceeding 30oC.

S 23: Do not breathe fumes.

S 26: In case of contact with eyes rinse immediately with plenty of water and seek medical advice.

S 28: After contact with skin, wash immediately with plenty of water.

S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 61: Avoid release to environment. Refer to special instructions/safety data sheet.

Regulations:

KIFS 2005:7, (EG) 1272/2008, AFS 2005:17

16. OTHER INFORMATION

Training advice:

The Avesta Finishing Chemicals "Handbook for the pickling and cleaning of stainless steel" and "Guidelines for Planning and Designing a Pickling Workshop".

Recommended applications and restrictions:

Only for the passivation of stainless steel, not to be used on other metals.

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Basic information sources used to draw up the information cards:

Standard Practice for cleaning stainless steel (ASTM-A-380), International Standard ISO 11014-11,

The full texts of the R-phrases in section 3 are:

R 8: Contact with combustible material may cause fire.

R 35: Causes severe burns.

Changes made since last version:

New layout and doc number

s. 14 - Tunnel restriction code, reference to regulations removed

s. 15 - Regulations updated

