

**Material Safety Data Sheet**  
**according to decree (EC) No. 1907 / 2006**

Revision: 2  
Revision Date: 13.12.07

**1. Chemical Product and Company Identification**

**Product name:**

Extra Gel

**Application of the product:**

Etching of enamel

**Manufacturer:**

Willmann + Pein GmbH

**Street:**

Schusterring 35

**Zip-Code / Town**

D-25355 Barmstedt

**Contact for technical information**

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**Emergency Information (24 hours)**

Dr. Wolfgang Willmann

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**2. Hazard Identification**

**Potential Hazards:**

Acidly • Causes Corrosion

Classification: R34 - C

**Additional hazard advices for human and environment:**

none

**3. Composition/Information on Ingredients**

**Chemical characterization:**

Phosphorus gel

Hazard ingredients:

PHOSPHORIC ACID 85 %, EG-No.: 231-633-2, CAS-No.: 7664-38-2

Proportion: 37 %

Categorization: C, R34

METHYLENE BLUE, EG-No.: 200-515-2

Proportion: 0,03 ‰

Categorization: Xn, R22

(The wording of the mentioned R-phrases is to learn from chapter 16).

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#### **4. First-Aid-Measures**

**After skin contact:**

Wash off skin with plenty of water. Dab off with polyethylene englycole 400.

**After eye contact:**

Rinse eyes an efficient time (min. 10 minutes) with water while holding lids open.  
Contact ophthalmologist.

**After swallowing**

After swallowing drink a lot of water.  
Do not cause vomitting.  
Contact immediately a doctor.  
No neutralization trials.

#### **5. Fire-Fighting-Measures**

**Suitable extinguishing agents:**

Coordinate to environment

**Special hazards:**

Not flammable. Through burning at surrounding area formation of hazard steams are possible. In case of burning **phosphoroxides** could develope.

**Protective equipment for fire-fighters:**

Staying in the danger zone only with self-contained breathing apparatus. Avoid skin contact through keeping safety distance or wearing adequate protection clothes.

**Other advices:**

Beat down leakage steams with water.

#### **6. Accidental release measures**

**Personal precautions:**

Do not breath Steams / Aerosoles. Avoid substance contact. Arrange for fresh air in closed rooms.

**Environmental protection measures:**

Do not allow to enter drains.

**Clean-up procedures:**

Clean up with liquidbonding and neutralizing material, for example Chemizorb® H+ (Art. 101595). To admit recycling. Aftercleaning.

#### **7. Handling and Storage**

**Information for safe handling:**

Do only use acid-proofed equipment.  
Protection of user and patient through using acid-proofed equipment. This means protective goggles, rubbergloves and lab coat.

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**Information about fire- and explosion protection:**

No special measures necessary.

**Storage conditions:**

Storage temperature: room temperature

Storage conditions: 3 years at room temperature

**8. Exposure Controls/Personal Protection**

**Limit values for the exposition at work station and / or biological limit values**

**Work station limit values (AGW) Germany**

The subsequent values only refer to pure phosphoric acid.

ORTHO-PHOSPHORIC ACID, Cas-No. 7664-38-2

Specification: TRGS 900 – Work station limit values (D)

Value: 1 mg/m<sup>3</sup>

Top limitation: 2 exceeding factor twice in 15 Min.

PNCE and DNCL-Values as to be possibly worked out in a preparation safety report do not exist.

**Personal protective equipment::**

The type of personal protective equipment has to be chosed work station specific in dependencely of hazardous substance concentration and –amount.

Breathing protection: not necessary

Eye protection: protection glasses

Hand protection: at full contact:

Glove material: nitrile natural rubber

Strength of Coat: 0,11 mm

Time of break through: > 480 Min.

at spray contact:

Glove material: nitrile natural rubber

Strength of Coat: 0,11 mm

Time of break through: > 480 Min.

Other protection measures: acid-proof protection cloth

Advices for hygienic

at work station:

Change contaminated clothes immediately.

Preventive skin protection. Wash hands and skin after finishing work.

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## 9. Physical and chemical Properties

### Appearance:

Form:	paste
Colour:	blue
Odour/Flavour:	acidulous

The subsequent values only refer to pure phosphoric acid.

### Safety relevant data:

Melting point:	~ 21°C
Boiling point:	~ 158°C
Flash point:	not applicable
Flammability:	not flammable
Upper explosion limit:	not applicable
Lower explosion limit:	not applicable
Density: (20°C)	1.71 g/cm <sup>3</sup>
Bulk density (20°C)	700-1.150 kg/mg <sup>3</sup>
Solubility in /Miscibility (20°C)	soluble
Ph-value: (20°C)	< 0.5
at 100g/l H <sub>2</sub> O	
steam pressure: (20°C)	2 hPa
Viscosity kinematic (25°C)	30.5 mm <sup>2</sup> /S

## 10. Stability and Reactivity

### Conditions to avoid

Strong heating

### Substances to avoid

Alkali, metal oxides  
Metals, Metal alloy: hydrogen can arise

### Hazardous decomposition products:

At burning: look at chapter 5

### Further information:

Hygroscopic;  
Incompatible with iron/ferrous compounds, steel, aluminum and its compounds. At contact with metals hydrogen gas could accumulate (hazard explosion!).

## 11. Toxicological information

The subsequent values only refer to pure phosphoric acid.

### Acute Toxicity

LC<sub>50</sub> (inhalativ, Rat): >0.21mg/l 4h (based on pure substance).  
LD<sub>50</sub> (dermal, rabbit): 2740 mg/kg (based on pure substance).  
LD<sub>50</sub> (oral, Rat): 1530 mg/kg (based on pure substance).

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Specific Symptomes in animal experience:  
Test on eye irritation (rabbit): Corrosion.  
Test on skin irritation (rabbit): Corrosion.  
Bacterial Mutagenicity: Ames-Test: negativ.

**Subacute unto chronic toxicity**

Experience with human: no sensitizing potential

**Kinetic of the toxic reaction:**

According the new Material Safety Data Sheet according to REACH, specifications about kinetic of the toxic reaction, metabolism of the substance and allocation of the substance in the human body must be mentioned at this place. Data for this is not available .

**Further toxicological advices:**

For the toxicological decisive component effects:

After inhaling of vapours: irritation appearance at breathing apparatus.

After skin contact: Corrosion.

After eye contact: inflammation of conjunctiva, corrosion, hazard of blindness!

After swallowing: corrosion, strong pain (hazard of perforation!).

Systemic effects: shock, convulsions.

**Further details:**

The product has to handled with the usual care when handling chemicals.

**12. Ecological information**

The subsequent values only refer to pure phosphoric acid.

**Biological decomposition:**

Inorganic substance. Causes no oxygen consumption.

**Ecotoxic effects:**

Biological effects:

Harmful effect to water organism. In thinning also corrosive. Harmful effect through pH-suspension.

**Fish toxicity:** *Gambusia affinis* LC<sub>50</sub>: 138mg / l / 96h (referring to pure substance).Water organism LC<sub>50</sub>: 100-1000 mg/l / 96 h (referring to pure substance).Bacteria toxicity: activated sludge EC<sub>50</sub>: 270 mg/l (referring to pure substance).**Further detail to ecology:**

Do not allow product to reach ground water, body of waters or sewage system!

**Bioaccumulation potential:**

No data available

**Effect of the determination of the PTB- and vPvB-Report:**

Endocrine disruption potential

If the material causes hormonal effects or prevents them is unknown to us.

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**13. Disposal considerations****Substance / Preparation**

To Dispose of accordingly with notice of the local regulations of authority.

**Disposal key according to AVV regulation**

06 01 04 (phosphoric acid and Phosphorous acid)

**Package**

Packages that are not contaminated can be recycled.

**14. Transport informations/rules****Land transport ADR/RID**

Classification

Class: 8

UN-Number: 1805

Classification code: C

Description of the good: Etching gel

Hazard cause: Ortho-Phosphoric acid

Packaging

Packaging group: not applicable, because it is not a flammable substance

Hazard sheet: not applicable, because of small quantities

Limited Quantities: no information

**Maritime transport IMDG/GGVSea**

Classification

IMDG-Code: 8

UN-Number: 1805

EmS: F-A S-B

Marine Pollutant: No

Description of the good: Etching Gel

Hazard cause: phosphoric acid

Packaging

Packaging group: not applicable, because it is not a flammable substance

Hazard sheet: not applicable, because of small quantities

**Air transport ICAO-TI and IATA-DGR**

Classification

Class: 8

UN-Number: 1805

Description of the good: Etching Gel

Hazard cause: phosphoric acid

Packaging

Packaging group: not applicable, because it is not a flammable substance

Hazard sheet: not applicable, because of small quantities

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**15. Regulatory Information****Labelling according EU guidelines**

C; corrosive

At the moment there exists neither registrations to title 7 either limits to title 8 for the product.

**Hazardous components requiring declaration / special labelling:**

contains: Phosphoric acid

**R-phrases:**

34 causes corrosions

**S-phrases:**

- 25: Avoid contact with eyes.  
26: At contact with eyes rinse exhaustive with water and consult a doctor.  
36 Wear adequate protection cloth at work.  
37 Wear protection gloves.  
39 protection glasses / wear face mask  
45: At accident or illness contact immediately a doctor  
(if possible, show this label)

**Safety Assessments**

Safety Assessments for substances in this preparation were not executed

**National Rules****Water hazard class**

Water Hazard Class 1 (low hazardous to waters) according to VwVwS, Annex 4

**Limits for employment**

In Germany employment limits for teenager (§ 22 JArbSchG) have to be followed

**16. Other information****Further applicable EG Guidelines**

Guideline for preparation (1999/45/EC), at last changed by the guideline 2006/8/EC.  
Substance Guideline (67/548/EWG), at last changed by the guideline 2006/121 EC.  
REACH-Guideline (EC) No. 1907/2006

**Manufacturer's suggested application restriction:**

For dental use only

**R-phrases that has reference to chapter 2 and 3**

34 Causes corrosions

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**Department issuing MSDS:**

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**Additional Information:**

Origin: <sup>1</sup> <http://www.baua.de>

<sup>2</sup> <http://www.arbeitssicherheit.de>

**Changes compared to the last version**

Assimilation according REACH-Regulation (EC) No. 1907/2006

Some of the information presented and conclusions drawn herein are from sources other than direct test-data on the product itself.

The contents and format of this MSDS are in accordance with EEC Commission (EC) No. 1907 / 2006.

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