

## MATERIAL SAFETY DATA SHEET

Issue Date: 31-January-2019

Version 01

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product Identifier

Product Name	ZP Ag/AgCl 60:40 solution
Product Description	Silver/Silver Chloride Paste with ratio of Silver to Silver Chloride of 60/40 dissolved in 1-Ethoxy-2-propanol, 90+%, remainder 2-ethoxy-1-propanol
Product Code	AG/AGCL6040-19

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Use as laboratory reagent/R&D.
Uses advised against	No information available.

#### 1.3 Manufacture/Supplier

	Zimmer & Peacock AS Building 24 Nedre vei 8 3183 Horten Vestfold Norway
Telephone	+47 95 22 12 34 (ZP)
Email	evenzimmer@zimmerpeacock.com

#### 1.4 Emergency Telephone



+47 95 22 12 34 (ZP)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification under GHS – H226; H315; H319; H336; EUH208

### 2.2 Label elements

Hazard symbol		
Signal word	Flammable	Warning
Hazard statement	<p>Flammable (H226); Skin Irrit (H315); Eye Irrit (H319); May cause drowsiness or dizziness (H336); Contains n-butyl methacrylate. May produce an allergic reaction (EUH208)</p> <p>P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p>	
Precautionary statement	<p>P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.            P264: Wash hands thoroughly after handling.            P280: Wear gloves/protective clothing, eye, and face, protection.            P302+352: IF ON SKIN: Wash with plenty of water/soap and water.            P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to so. Continue rinsing.            P321: Specific treatment (see instructions on this label).            P332+313: If skin irritation occurs: Get medical advice/attention.</p>	
Storage	Store away from incompatible materials.	
Disposal	Dispose of waste in accordance with local authority requirements.	

### 2.3 Other Hazards

PBT: This product is not identified as a PBT/vPvB substance.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
1-Ethoxy-2-propanol	1569-02-4	20-30%
2-Ethoxy-1-propanol	19089-47-5	0.2-0.3%
RM 111	111-76-2	10-30%
RM 367	7783-90-6	1-10%
RM 112	100-51-6	1-10%
N-Butyl Methacrylate	97-88-1	<1%

## 4. FIRST AID MEASURES

### 4.1 First Aid Measures

General Advice	Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. Show this safety data sheet to the doctor in attendance.
Eye Contact	Remove contact lens and rinse immediately with plenty of water. Seek medical attention.
Skin Contact	Wash off immediately with soap and water. Seek medical attention if irritation persists.

Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, seek medical attention.
Ingestion	Clean mouth with water and drink plenty of water. Seek medical attention if symptoms occur.
Production of First-Aiders	Use personal protective equipment. See Section 8 for more detail. Do not use mouth to mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical devices.

**4.2 Most important symptoms and effects, both acute and delayed**

Immediate effects can be expected after short-term exposure No information available

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

Notes to Physician Eye bathing equipment should be available on the premises

**5. FIRE-FIGHTING MEASURES**

5.1 Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray, alcohol-resistant foam, dry chemical carbon dioxide.

5.2 Specific Hazards Arising from the substance or mixture

In combustion emits toxic fumes.

5.3 Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES**

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid breathing vapours, mists or gas.

6.2 Environmental Precautions

Environmental Precautions Do not discharge into drains or rivers.

6.3 Method and Material for Containment and Cleaning Up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Soak up with inert absorbent material. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.  
Large spill: Stop flow of material. Dike the spilled material. Absorb in vermiculite, dry sand or each and place into containers. Following product recovery flush area with water.

**7. HANDLING AND STORAGE**

7.1 Precautions for Safe Handling

**Handling** To avoid risks to human health and the environment, comply with the instructions for use. Wear personal protective equipment.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Ensure adequate ventilation, especially in confined areas.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for Safe Storage, Including any Incompatibilities

**Storage** Keep container tightly closed in a dry and well-ventilated place.  
Store at room temperature in the original container.  
Keep away from direct sunlight.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2 Exposure controls

Appropriate Engineering Controls

**Engineering Measures** Provide exhaust ventilation or other engineering controls to keep the airborne concentration of vapours below respective threshold limit value.  
Have approved eyewash facility safety shower and fire extinguishers available.  
General industrial hygiene practice.

**Individual protection measures, such as personal protective equipment**

**Eye/face Protection** Wear chemical splash goggles. If splashes are likely to occur wear face-shield.

**Skin and Body Protection** Wear protection gloves/clothing. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact. Dispose of contaminated gloves in accordance with applicable laws and good laboratory practices. Wash and dry hands.  
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Respiratory Protection** In case of inadequate ventilation wear respiratory protection with particle filter approved under government standards such as NIOSH (US) and CEN (EU).

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties.

a) Physical State	Paste
b) Appearance	Grey
c) Odour	Characteristic odour
d) Odour Threshold	No information available
e) pH Range	No information available
f) Melting point/freezing point	No information available
g) Boiling Point/Range	132 °C
h) Flash Point (High in °C)	N/A
i) Evaporation Rate	No information available
j) Flammability (solid, gas)	No information available
k) Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	42 °C
l) Vapor pressure	No information available
m) Vapor Density	No information available
n) Specific Gravity	No information available
o) Water Solubility	No information available
p) Solubility in other solvents	No information available
q) Partition coefficient	No information available
r) Autoignition Temperature	No information available
s) Decomposition Temperature	No information available
t) Kinematic Viscosity	No information available
u) Dynamic Viscosity	No information available
v) Explosive Properties	No information available
w) Oxidizing Properties	No information available
x) Softening Point	No information available
y) VOC Content (%)	No information available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under recommended transport or storage conditions.

### 10.2 Chemical Stability

Stable under normal conditions.

### 10.3 Explosion Data

Sensitivity to Mechanical Impact    None

Sensitivity to Static Discharge        None

### 10.4 Possibility of Hazardous Reactions

None under normal storage conditions.

### 10.5 Conditions to Avoid

Heat.

### 10.6 Incompatible Materials

Strong oxidizing agents, strong acids.

### 10.7 Hazardous Decomposition Products

In combustion emits toxic fumes

## 11. TOXICOLOGICAL INFORMATION

### **11.1 Information on toxicological effects**

<b>Inhalation</b>	No adverse effects due to inhalation are expected.
<b>Eye Contact</b>	Direct contact with eyes may cause irritation.
<b>Skin Contact</b>	No adverse effects due to skin contact are expected.
<b>Ingestion</b>	May be harmful if swallowed.

### **11.2 Acute Toxicity**

#### **Production Information**

<b>Component</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
1-Ethoxy-2-propanol 1569-02-4	4400 mg/kg (rat)	8100 mg/kg (rbt)	>10000ppm/4H (rat)
2-Ethoxy-1-propanol 19089-47-5	7110 mg/kg (rat)	-	-
RM 111 111-76-2	470 mg/kg (rat)	-	450 ppm/4H (rat)
N-Butyl Methacrylate 97-88-1	16 g/kg (rat)	-	-

### **11.3 Information on Toxicological Effects**

<b>Symptoms</b>	No information available
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### **11.4 Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	Irritation
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	No information available
<b>Reproductive Effects</b>	No information available.
<b>STOT – single exposure</b>	No information available
<b>STOT – repeated exposure</b>	No information available
<b>Aspiration hazard</b>	No information available

### **11.5 Numerical measures of toxicity – Product Information**

<b>Unknown Acute Toxicity</b>	No information available
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## **12. ECOLOGICAL INFORMATION**

### **12.1 Ecotoxicity**

Slightly toxic to water.

### **12.2 Persistence and Degradability**

Biodegradable.

### **12.3 Bioaccumulation/Accumulation**

No information available

### **12.4 Results of PBT and vPvB assessment**

Not identified as a PBT/vPvB substance.

### **12.5 Other adverse effects**

Negligible ecotoxicity.

**12.6 Endocrine Disruptor Information**

No information available.

**13. DISPOSAL CONSIDERATIONS**

- 13.1 Disposal Instructions** Transfer to a suitable container and arrange for collection by specialised disposal company.
- 13.2 Waste Disposal Methods** Disposal should be in accordance with applicable regional, national and local laws and regulations.
- 13.3 Waste code number** 080109
- 13.4 Disposal of Packaging** Burn in a chemical incinerator equipped with afterburns and scrubbers.

**14. TRANSPORT INFORMATION**

This product does not require a classification for transport.

**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.**

No information available.

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

**16. OTHER INFORMATION**

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**Disclaimer:**

IMPORTANT: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.