

# SAFETY DATA SHEET

## SILVER RAIN

### 1 SECTION: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

#### 1.1 Product identifiers

**Trade name: SILVER RAIN**

**CAS:** 67-64-1, 7783-96-2, 7681-82-5

**Active ingredient:** ACETONE BASED SILVER IODIDE SOLUTION 1%

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

**Identified uses:** use for professional consumers, hail suppression system.

Uses advised against: Contraindicated use of space is not known.

#### 1.3 Details of the supplier of the safety data sheet:

**Company name: AGRO-CHEMIE Kft.**

Address: 1225 Budapest, Bányalég u. 47-59.

Telephone: (+36) 1/9000-800 Fax: (+36) 1/9000-810

Email address: peter.czegledi@agrochemie.hu

Emergency telephone: (+36) 1/9000-800 (8-16)

#### 1.4 Emergency information:

**Egészségügyi Toxikológiai Tájékoztató Szolgálat (ETTSZ)**

1096 Budapest, Nagyvárad tér 2.

Telephone: (36) 1/476-6464, (36) 80/201-199 (0-24)

### 2 SECTION: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008

##### **Hazard class and category**

Flam. Liq. 2

Eye Irrit 2

STOT SE 3

##### **Hazard statement(s)**

H225 - Highly flammable liquid and vapour

H319 - Causes serious eye irritation

H336 - May cause drowsiness or dizziness

#### 2.2 Label elements

Pictogram: (Labelling according Regulation (EC) No 1272/2008)



GHS 02

GHS07

**Signal word**

**Danger**

##### **Hazard statement(s):**

**H225** - Highly flammable liquid and vapour

**H319** - Causes serious eye irritation

**H336** - May cause drowsiness or dizziness

**EUH066** - Repeated exposure may cause skin dryness or cracking

**Precautionary statement(s):**

**P210** - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**P233** - Keep container tightly closed.

**P305+P351+P338** - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

2.3 Other hazards

The mixture does not have any other known effects on health or the environment.

**3 SECTION: COMPOSITION / INFORMATION ON INGREDIENTS**

3.1 Substances: -

3.2 Active Ingredient:

Substance	Conc. (%)	Classification	Hazard statement(s)	CAS	EC/ List no.	REACH No.
Acetone	98,6 - 98,8 %	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3,	H225 H319 H336	67-64-1	202- 662-2	01-2119471330- 49-XXXX
Silver iodide	1 %	Aquatic Chronic 1	H410	7783- 96-2	232- 038-0	01-2119967398- 18-XXXX
Sodium iodide	0,2 – 0,4 %	Aquatic Acute 1	H400	7681- 82-5	231- 679-3	01-2119908880- 36-XXXX

The other components of the product are not considered as a hazardous substance under the existing legislation, or their concentration in the formulation does not reach the level above the presence of the hazard classification should be made and should be considered.

For the full text of the H-Statements mentioned in this Section, see Section 16.

**4 SECTION: FIRSTAID MEASURES**

4.1 First aid:

**General information:** Immediately remove contaminated clothing.

**Inhalation:** Remove to fresh air, If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

**Skin:** Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water. Wash clothing before re-use. Get medical attention if irritation occurs.

**Eye:** Flush eyes promptly with copious flowing water for at least 15 minutes. Get medical attention immediately.

**Ingestion:** If swallowed, wash mouth thoroughly with plenty of water and give water to drink. Get medical attention immediately. Never give an unconscious person anything to drink.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

In case of poisoning, allergic disease, or suspected, the work should be discontinued immediately in half, and after-the-spot first aid medical care institutions need to ensure and show the label to the physician, respectively.

**5 SECTION: FIRE-FIGHTING MEASURES**

5.1 Extinguishing media:

Explosive

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide, alcohol type foams.

Unsuitable extinguishing media: a strong, high-volume water jet; the products pose a threat to the environment, do not dilute them.

5.2 Special hazards arising from the substance or mixture:

It evaporates very quickly, its vapors are heavier than air. Provide explosive atmosphere with air, keep away from ignition sources. Electrostatic charge must be prevented.

5.3 Advice for firefighters:

Complete personal protective equipment. Wear self-contained breathing apparatus and chemical-protective clothing.

5.4 Further information:

In case of fire and/or explosion do not breathe fumes. Enclose the area of fire and keep unprotected persons far away. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

**6 SECTION: ACCIDENTAL RELEASE MEASURES**

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Spillage: absorb with sand. Prevent contamination of water and sewer system.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

Information concerning the personal protective equipment can be found in section 8.

For disposal see section 13.

**7 SECTION: HANDLING AND STORAGE**

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Maximum storage temperature: 30 °C

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8 SECTION: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

Components with workplace control parameters.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Technical measures:

- Usual safety measures for chemical substances must be respected.
- Ensure adequate ventilation.
- Safety equipment, providing washing facilities.

Hygiene measures:

- While you work, do not eat, drink or smoke!
- The work breaks and after the work is completed thorough hand washing or washing required.
- Separate working clothes from everyday clothing.

8.2.2 Personal protective equipment:

**Respiratory:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls.

If the respirator is the sole means of protection, use a full-face supplied air respirator.

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use 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.

**Skin:** impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Eye:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

8.2.3 Environmental exposure controls:

Do not release into the environment. Do not let product enter drains.

## 9 SECTION: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	colorless, viscous liquid
<b>Odour</b>	characteristic
<b>Odour Threshold</b>	500-1100 mg/m <sup>3</sup> (acetone)
<b>pH érték</b>	No data available
<b>Melting point/ freezing point</b>	-98 °C
<b>Solubility</b>	Soluble in water
<b>Partition coefficient: noctanol/water</b>	No data available
<b>Relative density</b>	0,8 kg/dm <sup>3</sup> (20 °C)
<b>Upper/lower flammability or explosive limits</b>	2,2-13 v/v % (acetone)
<b>Boiling point</b>	56 °C
<b>Vapour density</b>	No data available
<b>Vapour pressure</b>	No data available
<b>Flash point</b>	-20 °C
<b>Decomposition temperature</b>	No data available
<b>Viscosity</b>	0,32 mPa.s
<b>Explosive properties</b>	explosive material
<b>Oxidizing properties</b>	non-oxidizing
<b>Auto-ignition temperature</b>	No data available

### 9.2 Other safety information

No data available

## 10 SECTION: STABILITY AND REACTIVITY

- 10.1 Reactivity: Exothermic reactions with: alkali metal, strong oxidizing reducing agents, halogenated hydrocarbons, bromine
- 10.2 Chemical stability: The substance is stable under normal and expected environmental storage and handling conditions but is strongly reactive. It must provide at least two years of chemical stability or activity.
- 10.3 Possibility of hazardous reactions: activated carbon, fluorine, oxidizing reducing agents, nitric acid
- 10.4 Conditions to avoid: Direct light is irradiation, light, sensitive to air.
- 10.5 Incompatible materials: alkaline hydroxides (condensation reactions), halogens, interhalogens, oxidants, alkaline and earth metals. You can attack rubber and a number of plastics.
- 10.6 Hazardous decomposition products: peroxide formation

## 11 SECTION: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

- General description: high dose headache, salivation, nausea, vomiting, dizziness, drowsiness, coma.
- Acute toxicity  
Oral: LD<sub>50</sub>: 5800 mg/kg (rat)
- Skin corrosion/irritation: it causes irritation to the skin and causes skin dryness. Eye damage /irritating, corneal drowsiness.
- Serious eye damage/eye irritation: irritant, Irr. index: 32
- Respiratory or skin sensitisation: not sensitizing.
- Germ cell mutagenicity: no data available.
- Carcinogenicity: IARC: no data available.
- Teratogenicity: no data available.
- Reproductive toxicity: no data available.

- Specific target organ toxicity - single exposure: cannot be classified as target organ toxic (single exposure).
- Specific target organ toxicity - repeated exposure: cannot be classified as a target organ toxicity (repeated exposure).
- Aspiration hazard: vapours may be irritated by mucosal irritation.

#### 11.2 Symptoms and direct effects:

Oral: gastrointestinal disorders  
Dermal: degreasing effect, rough, cracked skin  
Inhalation: mucosal irritation, drowsiness. Absorption.

#### 11.3 Additional Information:

RTECS: No data available.

### 12 SECTION: ECOLOGICAL INFORMATION

#### 12.1 Toxicity:

**Fish:** Acute LC50 (96h): 5540 mg/l (onchorhyncus mysskis) (acetone)  
**Daphnia:** EC50 (48 h): 6100 mg/l (Daphnia magna) (acetone)  
**Algae Growth:** IC5 (8 d): 7500 mg/l (M.aerugiosa) (acetone)  
**Bacteria:** Acute EC50 (30 min): 59-67 mg/l (P.putida) (acetone)

12.2 Persistence and degradability: biodegradable

12.3 Bioaccumulative potential: Bioaccumulation is not expected ( $\log p_o / v > 1$ )

12.4 Mobility in soil: sorption, soil Kd: 1.5 l / kg. It can fall into the soil and spread.

12.5 Results of PBT and vPvB assessment: No PBT / vPvB test has been performed because chemical safety testing is not necessary or has not occurred.

12.6 Other adverse effects: Do not allow product and residues to be released into water, sewage or soil.

### 13 SECTION: DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

#### 13.2 Contaminated packaging

Dispose of as unused product.

### 14 SECTION: TRANSPORT INFORMATION

#### 14.1 UN No.

ADR/RID/IMDG/IATA: 1993

#### 14.2 UN proper shipping name

ADR/RID/IMDG/IATA: 1993 FLAMMABLE LIQUID, N.O.S. (acetone silver iodide solution)

#### 14.3 Transport hazard class(es)

ADR/RID/IMDG/IATA: 3

14.4 Packaging group

ADR/RID/IMDG/IATA: II.

14.5 Environmental hazards

ADR/RID/IMDG/IATA: does not constitute an environmentally hazardous substance

14.6 Special precautions for user

No data available

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

Not evaluated

**15 SECTION: REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use.' (Directive 1999/45/EC, Article 10, No. 1.2)

The use of this chemical entails the obligation to "Risk Assessment" by the employer under the provisions of the workers, these chemicals should not be subjected to health checks to evaluate the results of risks shows that the relation of the type and quantity of the chemical substance mode and contact with the exposure as well.

Only the "moderate risk" to the health and safety of workers and the measures provided for in that regulation is sufficient to reduce the risk.

Chemical Safety Assessment

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

15.2 Chemical Safety Assessment: For this product a chemical safety assessment was not carried out

**16 SECTION: OTHER INFORMATION**

**General information**

Section 1-15. is based on the present state of our knowledge and only serves to showcase the product to the health, safety and environmental requirements. The safety data sheet refers to the product as supplied.

**Sources of data used to compile the safety data sheet:**

The test results of the mixture

Safety Data Sheet of the mixture components

**Classification of the mixture was done according to the No. 1272/2008/EC regulation:**

**Based on the measured values of the toxicological and ecotoxicological properties of the mixture**

Flam. Liq. 2                    H225

Eye Irrit. 2                    H319

STOT SE 3                    H336

**Below are the H-phrases that can be found in the 3rd section of the safety data sheet, as well as the full texture of the hazard classes and categories.**

**Hazard statements**

H225                                    Highly flammable liquid and vapour

H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
EUH 066	Repeated exposure may cause skin dryness or cracking.
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long-lasting effects

#### **Hazard Class and Category**

Flam. Liq. 2	Flammable Liquid Category 2
Eye Irrit. 2	Serious eye irritation Category 2
STOT SE 3	Specific target organ toxicity - single exposure Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic category 2
Aquatic Acute 1	Hazardous to the aquatic environment, acute category 1

#### **Legal notice**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

#### **Data sheet history**

This Safety Data Sheet is compiled using the manufacturer's data sheet issued 12/09/2014

#### ***Review:***

Chapter	Reason of the change	Date	Version
1-16	Change the candidate sections of the safety data sheet in accordance with the applicable legal regulations	02-08-2018	3.