

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

#### Identification of the substance or mixture

**Product name:** KODAK Hypo Test Kit  
X-OMAT Hypo Test Kit

**Product code:** 1965847

**Synonyms** PCD 3756

#### Use of the Substance/Mixture

**Product Use:** Restricted to professional users, Film Testing Solution.

**Restrictions on use** -

#### Company/Undertaking Identification

Carestream Health Korea Ltd  
4F Shinyoung B/D 46-10, Jamwon-dong, Seocho-gu, Seoul 137-906, Korea  
T: +82-2-3438-7300

#### For further information, please contact:

For environment, health and safety information, email: WW-EHS@carestreamhealth.com

#### Emergency telephone

Emergency Transportation/CHEMTREC (24 HOUR) 00-308-13-2549

### 2. HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

|                                                           |            |
|-----------------------------------------------------------|------------|
| Skin corrosion/irritation                                 | Category 2 |
| Serious eye damage/eye irritation                         | Category 1 |
| Specific target organ systemic toxicity (single exposure) | Category 3 |
| Acute aquatic toxicity                                    | Category 1 |
| Chronic aquatic toxicity                                  | Category 1 |
| Corrosive to Metals                                       | Category 1 |

#### GHS Label elements, including precautionary statements



**DANGER**

### **Hazard statements**

H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H335 - May cause respiratory irritation  
H410 - Very toxic to aquatic life with long lasting effects  
H290 - May be corrosive to metals

### **Precautionary Statements**

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area  
P273 - Avoid release to the environment  
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/ physician  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P321 - Specific treatment (see supplemental first aid instructions on this label)  
P332 + P313 - If skin irritation occurs: Get medical advice/ attention  
P362 - Take off contaminated clothing and wash before reuse  
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing  
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell  
P390 - Absorb spillage to prevent material damage  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up  
P406 - Store in corrosive resistant container with a resistant inliner  
P501 - Dispose of contents/ container to an approved waste disposal plant

### **Other hazards which do not result in classification**

None known.

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

| <b>Chemical Name</b> | <b>Weight %</b> |
|----------------------|-----------------|
| Water                | >95             |
| Acetic acid          | 1-5             |
| Silver nitrate       | 0.25-1          |

## **4. FIRST AID MEASURES**

### **Description of necessary first-aid measures**

|                       |                                                                                                                                                                        |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b> | IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.                                                                                  |
| <b>Main Symptoms</b>  | Irritation<br>Difficulty breathing<br>Coughing and/ or wheezing                                                                                                        |
| <b>Eye contact</b>    | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician immediately. |
| <b>Skin contact</b>   | Wash off immediately with plenty of water for at least 15 minutes. Seek immediate medical attention/advice.                                                            |

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|                   |                                                                                                                                           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b> | Move to fresh air. Get medical attention immediately if symptoms occur.                                                                   |
| <b>Ingestion</b>  | Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention. |

Most important symptoms/effects, acute and delayed

|                     |                                                                                 |
|---------------------|---------------------------------------------------------------------------------|
| <b>Skin contact</b> | Irritating to skin.                                                             |
| <b>Eye contact</b>  | Irritating to eyes. Risk of serious damage to eyes.                             |
| <b>Inhalation</b>   | Irritating to respiratory system.                                               |
| <b>Ingestion</b>    | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

Indication of immediate medical attention and special treatment needed, if necessary

|                           |                        |
|---------------------------|------------------------|
| <b>Notes to physician</b> | Treat symptomatically. |
|---------------------------|------------------------|

|                                  |
|----------------------------------|
| <b>5. FIRE-FIGHTING MEASURES</b> |
|----------------------------------|

|                     |                                                 |
|---------------------|-------------------------------------------------|
| <b>Flash point:</b> | See chapter 9. PHYSICAL AND CHEMICAL PROPERTIES |
|---------------------|-------------------------------------------------|

Suitable Extinguishing Media

|                                     |                                                                                                         |
|-------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b> | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
|-------------------------------------|---------------------------------------------------------------------------------------------------------|

|                                                                       |       |
|-----------------------------------------------------------------------|-------|
| <b>Extinguishing media which shall not be used for safety reasons</b> | None. |
|-----------------------------------------------------------------------|-------|

Specific hazards arising from the chemical

|                       |                                                                                     |
|-----------------------|-------------------------------------------------------------------------------------|
| <b>Special Hazard</b> | Thermal decomposition can lead to release of irritating and toxic gases and vapors. |
|-----------------------|-------------------------------------------------------------------------------------|

Special protective actions for fire-fighters

|                                                       |                                                              |
|-------------------------------------------------------|--------------------------------------------------------------|
| <b>Special protective equipment for fire-fighters</b> | Wear self-contained breathing apparatus and protective suit. |
|-------------------------------------------------------|--------------------------------------------------------------|

Other information

|                          |                                                    |
|--------------------------|----------------------------------------------------|
| <b>Other information</b> | In the event of fire, cool tanks with water spray. |
|--------------------------|----------------------------------------------------|

|                                       |
|---------------------------------------|
| <b>6. ACCIDENTAL RELEASE MEASURES</b> |
|---------------------------------------|

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Do not touch or walk through spilled material.

Environmental precautions

Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. Try to prevent the material from entering drains or water courses.

### Methods and materials for containment and cleaning up

Prevent further leakage or spillage if safe to do so.

Contain the spill. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

### Other information

See Section 12 for additional Ecological information.

## **7. HANDLING AND STORAGE**

### Precautions for safe handling

**Advice on safe handling** Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation.

### Conditions for safe storage, including any incompatibilities

**Technical measures/Storage conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store in corrosive resistant container with a resistant liner.

**Materials to Avoid** None.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Control parameters

**Exposure limits** Ingredients with workplace control parameters

| Chemical Name  | Korea                                                                              |
|----------------|------------------------------------------------------------------------------------|
| Acetic acid    | STEL 15 ppm<br>STEL 37 mg/m <sup>3</sup><br>TWA 10 ppm<br>TWA 25 mg/m <sup>3</sup> |
| Silver nitrate | TWA 0.01 mg/m <sup>3</sup>                                                         |

### Appropriate engineering controls

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

### Individual protection measures, such as personal protective equipment (PPE)

#### **Personal Protective Equipment**

##### **General Information**

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied. Use only with adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment.

##### **Respiratory protection**

##### **Eye Protection**

If splashes are likely to occur, wear: Safety glasses with side-shields

##### **Skin and body protection**

Wear suitable protective clothing. Protective shoes or boots.

##### **Hand Protection**

Impervious gloves

**Hygiene measures**

When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical state** liquid

**ph** 2.4

**Flash point:** > 93.4 °C

**Boiling point/boiling range** > 100 °C

**Odor** Vinegar-like

**Color** colorless

**Autoignition temperature:** No information available

**Vapor Pressure** 24 mbar @ 20 °C

**Vapor density** 0.6

**Density** No information available

**Volatile organic compounds (VOC) content** 95 - 99

**Water Solubility** completely soluble

**Melting point/range:** No information available

**Specific Gravity** 1.01

**Bulk Density:** No information available

**10. STABILITY AND REACTIVITY**

Reactivity

No dangerous reaction known under conditions of normal use

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to Avoid

Heat.

Materials to Avoid

None.

Hazardous Decomposition Products

None under normal use.

**11. TOXICOLOGICAL INFORMATION**

Acute toxicity Product Information.

**Skin contact**

**Eye contact**

**Inhalation**

**Ingestion**

Irritating to skin.

Irritating to eyes. Risk of serious damage to eyes.

Irritating to respiratory system.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Acute toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity

**Oral** 103,092.78 mg/kg  
**Dermal** 32,894.74 mg/kg

#### Acute toxicity - Component Information

| Chemical Name  | LD50 Oral                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | LD50 Dermal           | LC50 Inhalation       |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|
| Water          | 90,000 mg/kg ( Rat )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                       |                       |
| Acetic acid    | 3310 mg/kg ( Rat )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1060 mg/kg ( Rabbit ) | 11.4 mg/L ( Rat ) 4 h |
| Silver nitrate | 1173 mg/kg ( Rat )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |                       |
| Chemical Name  | Other applicable information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                       |
| Acetic acid    | Severe eye irritation<br>Severe skin irritation<br>Acute overexposure to extremely high airborne concentrations of respiratory irritants has been associated with development of an asthma-like reactive airways syndrome (RADS) in susceptible individuals. Extremely high airborne concentrations are not generated during normal conditions of use but may occur following a spill. The potential to generate extremely high airborne concentrations in a spill situation depends upon physical factors such as the concentration of the solution, the volume of the spill, the surface area of the spill, the size of the room where the spill occurred, and the ventilation rate in the room. |                       |                       |

**Aggravated Medical Conditions** Respiratory disorders, Preexisting eye disorders, Skin disorders.

#### Subchronic toxicity

no data available

#### Chronic toxicity

**Chronic toxicity** Effects expected to be similar to those seen acutely.  
**Sensitization** No information available.  
**Neurological effects** No information available.  
**Target Organ Effects** Skin, Eyes, Respiratory system.

#### CMR Effects

**Carcinogenicity** This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B): Silver nitrate. The IARC classification only applies to ingested nitrites and nitrate which is not a likely route of exposure in the occupational environment.

| Chemical Name                                                                                  | IARC | Korea |
|------------------------------------------------------------------------------------------------|------|-------|
| Silver nitrate<br>7761-88-8                                                                    | 2A   |       |
| IARC: (International Agency for Research on Cancer) Group 2A - Probably Carcinogenic to Humans |      |       |

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

Very toxic to aquatic organisms.

#### Acute aquatic toxicity Product Information

No information available

#### Acute aquatic toxicity Component Information

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|---------------|-------------------|------------------|-----------------------------------------------------|
|---------------|-------------------|------------------|-----------------------------------------------------|

|                |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                      |
|----------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Acetic acid    |  | LC50= 79 mg/L Pimephales promelas 96 h LC50= 75 mg/L Lepomis macrochirus 96 h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EC50 = 47 mg/L 24 h (Daphnia magna) EC50 = 65 mg/L 48 h (Daphnia magna)                                                              |
| Silver nitrate |  | LC50 0.00512 - 0.00787 mg/L Poecilia reticulata 96 h LC50 0.009 - 0.02 mg/L Lepomis macrochirus 96 h LC50 0.0242 - 0.0484 mg/L Lepomis macrochirus 96 h LC50 0.05 - 0.07 mg/L Lepomis macrochirus 96 h LC50 0.001339 - 0.001637 mg/L Oncorhynchus mykiss 96 h LC50= 0.0075 mg/L Oncorhynchus mykiss 96 h LC50 0.00839 - 0.1802 mg/L Oncorhynchus mykiss 96 h LC50 0.00452 - 0.00638 mg/L Pimephales promelas 96 h LC50 0.00181 - 0.00214 mg/L Pimephales promelas 96 h LC50 0.0064 - 0.0106 mg/L Pimephales promelas 96 h LC50= 0.009 mg/L Pimephales promelas 96 h LC50= 0.0027 mg/L Cyprinus carpio 96 h | EC50 = 0.0006 mg/L 48 h (Daphnia magna) EC50 0.0008 - 0.001 mg/L 48 h (Daphnia magna) EC50 0.0008 - 0.0011 mg/L 48 h (Daphnia magna) |

#### **Persistence and degradability**

No information available

#### **Bioaccumulative potential**

No information available

| Chemical Name | log Pow |
|---------------|---------|
| Acetic acid   | -0.31   |

### 13. DISPOSAL CONSIDERATIONS

#### **Waste from Residues / Unused Products**

Should not be released into the environment. Dispose of in accordance with local regulations.

#### **Contaminated packaging**

Do not re-use empty containers. Dispose of in accordance with local regulations.

### 14. TRANSPORT INFORMATION

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

#### **ADR/RID**

|                                       |                             |
|---------------------------------------|-----------------------------|
| <b>UN/ID No</b>                       | UN1760                      |
| <b>Proper Shipping Name</b>           | Corrosive liquid, n.o.s.    |
| <b>Technical Name</b>                 | Acetic acid, Silver nitrate |
| <b>Hazard class</b>                   | 8                           |
| <b>Packing Group</b>                  | III                         |
| <b>Classification Code</b>            | C9                          |
| <b>ADR/RID-Labels</b>                 | 8                           |
| <b>Special Provisions</b>             | 274                         |
| <b>ADR Hazard Id (Kemmler Number)</b> | 80                          |
| <b>Limited Quantity</b>               | 5 L                         |

#### IMDG/IMO

|                              |                             |
|------------------------------|-----------------------------|
| <b>UN/ID No</b>              | UN1760                      |
| <b>Proper Shipping Name</b>  | Corrosive liquid, n.o.s.    |
| <b>Technical Name</b>        | Acetic acid, Silver nitrate |
| <b>Hazard class</b>          | 8                           |
| <b>Packing Group</b>         | III                         |
| <b>Marine Pollutant</b>      | NP                          |
| <b>EmS No.</b>               | F-A, S-B                    |
| <b>Special Provisions</b>    | 274                         |
| <b>Limited quantity DFDA</b> | 5 L                         |

#### ICAO/IATA

|                              |                             |
|------------------------------|-----------------------------|
| <b>UN/ID No</b>              | UN1760                      |
| <b>Proper Shipping Name</b>  | Corrosive liquid, n.o.s.    |
| <b>Technical Name</b>        | Acetic acid, Silver nitrate |
| <b>Hazard class</b>          | 8                           |
| <b>Packing Group</b>         | III                         |
| <b>ERG Code</b>              | 8L                          |
| <b>Special Provisions</b>    | A3, A803                    |
| <b>Limited quantity DFDA</b> | 1 L                         |

#### ADN

|                              |                             |
|------------------------------|-----------------------------|
| <b>UN/ID No</b>              | UN1760                      |
| <b>Proper Shipping Name</b>  | Corrosive liquid, n.o.s.    |
| <b>Technical Name</b>        | Acetic acid, Silver nitrate |
| <b>Hazard class</b>          | 8                           |
| <b>Packing Group</b>         | III                         |
| <b>Classification Code</b>   | C9                          |
| <b>Special Provisions</b>    | 274                         |
| <b>Limited quantity DFDA</b> | 5 L                         |

#### DOT

|                             |                             |
|-----------------------------|-----------------------------|
| <b>UN/ID No</b>             | UN1760                      |
| <b>Proper Shipping Name</b> | Corrosive liquids, n.o.s.   |
| <b>Technical Name</b>       | Acetic acid, Silver nitrate |
| <b>Hazard class</b>         | 8                           |
| <b>Packing Group</b>        | III                         |
| <b>Special Provisions</b>   | IB3, T7, TP1, TP28          |

#### TDG

|                             |                             |
|-----------------------------|-----------------------------|
| <b>UN/ID No</b>             | UN1760                      |
| <b>Proper Shipping Name</b> | Corrosive liquid, n.o.s.    |
| <b>Technical Name</b>       | Acetic acid, Silver nitrate |
| <b>Hazard class</b>         | 8                           |
| <b>Packing Group</b>        | III                         |

This product meets the requirements of the limited quantity exemption. The shipping case will be marked as a limited quantity. It does not require other labeling or placarding except if transported by aircraft. For transportation information, go to: <http://ship.carestreamhealth.com>.

## 15. REGULATORY INFORMATION

### International Inventories

|                      |          |
|----------------------|----------|
| <b>EINECS/ELINCS</b> | Complies |
| <b>TSCA</b>          | Complies |
| <b>DSL/NDSL</b>      | Complies |
| <b>ENCS</b>          | Complies |
| <b>IECSC</b>         | Complies |
| <b>KECL</b>          | Complies |
| <b>PICCS</b>         | Complies |
| <b>AICS</b>          | Complies |
| <b>NZIoC</b>         | Complies |

**Legend**

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**National regulatory information**

| <b>Chemical Name</b> | <b>Toxic Chemicals Control Law</b> | <b>Toxic Release Inventory<br/>Chemicals - Group 1</b> | <b>Toxic Release Inventory<br/>Chemicals - Group 2</b> |
|----------------------|------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Acetic acid          | not applicable                     | not applicable                                         | $\geq 1.0$ %                                           |
| Silver nitrate       | 97-1-92 *                          | not applicable                                         | not applicable                                         |

Revision Date 2013-03-07  
Revision Note Initial Release

**Disclaimer**

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text

**End of Material Safety Data Sheet**