1 Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
  - Trade name: **60X Wash Solution**
  - Article number: CP0022

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.

- **Application of the substance / the mixture**
  - Laboratory chemicals

- **1.3 Details of the supplier of the Safety Data Sheet**
  - Manufacturer/Supplier: OpGen, Inc.
  - 708 Quince Orchard Rd
  - Gaithersburg, MD 20878
  - Phone: (301) 869-9683

- **1.4 Emergency telephone number:**
  - ChemTel Inc.
  - (800)255-3924, +1 (813)248-0585

2 Hazards identification

- **2.1 Classification of the substance or mixture**
  - **Classification according to Regulation (EC) No 1272/2008**
  - The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H411.

  - **corrosion**
  - **Eye Dam. 1 H318** Causes serious eye damage.

  - **environment**
  - **Aquatic Chronic 2 H411** Toxic to aquatic life with long lasting effects.

  - **SkIn Irrit. 2 H315** Causes skin irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
  - Xi; Irritant
  - R38-41: Irritating to skin. Risk of serious damage to eyes.
  - N; Dangerous for the environment
  - R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- **Information concerning particular hazards for human and environment:**
  - The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
Trade name: 60X Wash Solution

- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

- **2.2 Label elements**
  - **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
  - **Hazard pictograms**
    - [Image of pictograms]
    - This pictogram only applicable for EU regulations. Not for use in the United States (OSHA GHS).
    - [Image of GHS pictograms]
    - GHS05 GHS09
  - **Signal word** Danger
  - **Hazard-determining components of labelling:**
    Polyethylene glycol octylphenol ether
  - **Hazard statements**
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H411.
  - H315 Causes skin irritation.
  - H318 Causes serious eye damage.
  - H411 Toxic to aquatic life with long lasting effects.
  - **Precautionary statements**
    - P280 Wear protective gloves / eye protection.
    - P264 Wash thoroughly after handling.
    - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
    - P332+P313 If skin irritation occurs: Get medical advice/attention.
    - P302+P352 IF ON SKIN: Wash with plenty of water.
    - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Hazard description:**
- **WHMIS-symbols:**
  - D2B - Toxic material causing other toxic effects
Trade name: 60X Wash Solution

- **NFPA ratings (scale 0 - 4)**
  - Health = 2
  - Fire = 0
  - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  - Health = 2
  - Fire = 0
  - Reactivity = 0

- **HMIS Long Term Health Hazard Substances**
  None of the ingredients is listed.

- **2.3 Other hazards**
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

### 3 Composition/information on ingredients

- **3.2 Mixtures**
  - Description: Mixture of substances listed below with nonhazardous additions.

  - **Dangerous components:**
    - CAS: 9002-93-1 Polyethylene glycol octylphenol ether
      - Xi R36/38; N R50/53
      - Eye Dam. 1, H318
      - Aquatic Acute 1, H400; Aquatic Chronic 1, H410
      - Skin Irrit. 2, H315
      - 5-10%
    - CAS: 7647-01-0 hydrochloric acid
      - C R34; Xi R37
      - Skin Corr. 1B, H314
      - STOT SE 3, H335
      - < 5%

  - **SVHC**
    - 9002-93-1Polyethylene glycol octylphenol ether

  - **Additional information:** For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

- **4.1 Description of first aid measures**
  - **General information:** No special measures required.
  - **After inhalation:** Supply fresh air; consult doctor in case of complaints.
  - **After skin contact:**
    - Immediately rinse with water.
    - If skin irritation continues, consult a doctor.
Trade name: 60X Wash Solution

- **After eye contact:**
  - Protect unharmed eye.
  - Remove contact lenses if worn.
  - Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:**
  - Rinse out mouth and then drink plenty of water.
  - Do not induce vomiting; call for medical help immediately.

- **4.2 Most important symptoms and effects, both acute and delayed**
  - Nausea in case of ingestion.
  - Gastric or intestinal disorders when ingested.
  - Cramp
  - Coughing
  - Irritant to skin and mucous membranes.
  - Strong irritant with the danger of severe eye injury.

- **Hazards**
  - **Danger of severe eye injury.**

- **4.3 Indication of any immediate medical attention and special treatment needed**
  - No further relevant information available.

### 5 Firefighting measures

- **5.1 Extinguishing media**
  - **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
  - **For safety reasons unsuitable extinguishing agents:** None.

- **5.2 Special hazards arising from the substance or mixture**
  - Formation of toxic gases is possible during heating or in case of fire.

- **5.3 Advice for firefighters**
  - **Protective equipment:**
    - Wear self-contained respiratory protective device.
    - Wear fully protective suit.
  - **Additional information**
    - No further relevant information available.

### 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
  - Use respiratory protective device against the effects of fumes/dust/aerosol.
  - Wear protective equipment. Keep unprotected persons away.
  - Ensure adequate ventilation
  - Particular danger of slipping on leaked/spilled product.

- **6.2 Environmental precautions:**
  - Do not allow to enter sewers/surface or ground water.
  - Inform respective authorities in case of seepage into water course or sewage system.

- **6.3 Methods and material for containment and cleaning up:**
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Pick up mechanically.
  - Dispose contaminated material as waste according to item 13.
  - Clean the affected area carefully; suitable cleaners are:
Trade name: 60X Wash Solution

Warm water

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

7.1 Precautions for safe handling
Prevent formation of aerosols.
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles:
Store at 35,6 - 46,4 °F / 2 - 8 °C.
Avoid storage near extreme heat, ignition sources or open flame.

Information about storage in one common storage facility:
Store away from foodstuffs.
Store away from oxidizing agents.

Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.

7.3 Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

7647-01-0 hydrochloric acid

<table>
<thead>
<tr>
<th></th>
<th>IOELV (EU)</th>
<th>PEL (USA)</th>
<th>REL (USA)</th>
<th>TLV (USA)</th>
<th>EL (Canada)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term value:</td>
<td>15 mg/m³, 10 ppm</td>
<td>7 mg/m³, 5 ppm</td>
<td>7 mg/m³, 5 ppm</td>
<td>2,98 mg/m³, 2 ppm</td>
<td>C 2 ppm</td>
</tr>
<tr>
<td>Long-term value:</td>
<td>8 mg/m³, 5 ppm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DNELs No further relevant information available.
PNECs No further relevant information available.
Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:
The usual precautionary measures are to be adhered to when handling chemicals.
Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

Trade name: 60X Wash Solution

Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

Respiratory protection:
Not required under normal conditions of use.
For spills, respiratory protection may be advisable.
Use suitable respiratory protective device when aerosol or mist is formed.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Safety glasses

Body protection: Protective work clothing

Limitation and supervision of exposure into the environment
No further relevant information available.

Risk management measures
See Section 7 for additional information.
No further relevant information available.

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: Liquid
Colour: Colourless
Odour: Nearly odourless
Odour threshold: Not determined.
PH-value: 9,9 - 10,1
Trade name: 60X Wash Solution

- Change in condition
  - Melting point/Melting range: Not Determined.
  - Boiling point/Boiling range: Undetermined.
- Flash point: Not applicable.
- Flammability (solid, gaseous): Not applicable.
- Auto/Self-ignition temperature: Not determined.
- Decomposition temperature: Not determined.
- Self-igniting: Product is not self-igniting.
- Danger of explosion: Product does not present an explosion hazard.
- Explosion limits:
  - Lower: Not determined.
  - Upper: Not determined.
- Vapour pressure: Not determined.
- Density: Not determined.
- Relative density: Not determined.
- Vapour density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with water: Soluble.
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.

9.2 Other information
No further relevant information available.

10 Stability and reactivity

10.1 Reactivity

10.2 Chemical stability

10.3 Possibility of hazardous reactions
Toxic fumes may be released if heated above the decomposition point.
Reacts with oxidizing agents.

10.4 Conditions to avoid
Keep away from heat and direct sunlight.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Nitrogen oxides
Trade name: 60X Wash Solution

Chlorine compounds

11 Toxicological information

- **11.1 Information on toxicological effects**
  - **Acute toxicity:**
  - **Primary irritant effect:**
    - **on the skin:** Irritant to skin and mucous membranes.
    - **on the eye:** Strong irritant with the danger of severe eye injury.
  - **Sensitization:** No sensitizing effects known.
  - **Additional toxicological information:**
    The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
    - **Irritant**
    - **Acute effects (acute toxicity, irritation and corrosivity):**
      May be harmful in contact with skin.
      May be harmful if inhaled.

12 Ecological information

- **12.1 Toxicity**
  - **Aquatic toxicity:**
    The product contains materials that are harmful to the environment.
    Toxic for aquatic organisms
  - **12.2 Persistence and degradability** The product is partially biodegradable. Significant residuals remain.
  - **12.3 Bioaccumulative potential** No further relevant information available.
  - **12.4 Mobility in soil** No further relevant information available.
  - **Ecotoxicological effects:**
    - **Remark:**
      Toxic for fish
      The product is oxygen-consuming. The declared action may be partly caused by lack of oxygen.
  - **Additional ecological information:**
  - **General notes:**
    This statement was deduced from the properties of the single components.
    Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
    Do not allow product to reach ground water, water course or sewage system, even in small quantities.
    Also poisonous for fish and plankton in water bodies.
    Toxic for aquatic organisms
    Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment cannot be excluded.
  - **12.5 Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.
  - **12.6 Other adverse effects** No further relevant information available.
Safety Data Sheet  
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

Trade name: 60X Wash Solution

### 13 Disposal considerations

- **13.1 Waste treatment methods**  
  **Recommendation**  
  Must not be disposed together with household garbage. Do not allow product to reach sewage system. Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

- **Uncleaned packaging:**  
  **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agents:** Water only.

### 14 Transport information

- **14.1 UN-Number**  
  - DOT: Not Regulated  
  - ADR, IMDG, IATA: UN3082

  Limited Quantity for packages less than 30 kg (66 lb) and inner packagings less than 5 L (1.3 gal).

- **DOT**  
  - Not Regulated

- **ADR**  
  - 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyethylene glycol octylphenol ether)

- **IMDG, IATA**  
  - ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyethylene glycol octylphenol ether)

- **14.3 Transport hazard class(es)**  
  - **DOT**  
    - Class: Not Regulated
  
  - **ADR**  
    - **Class:** 9 (M6) Miscellaneous dangerous substances and articles.
Trade name: 60X Wash Solution

- **Label**
  - IMDG
    - Class 9
  - Class 9 Miscellaneous dangerous substances and articles.

- **IATA**
  - Class 9
  - Label
  - 14.4 Packing group
  - DOT Not Regulated
  - ADR, IMDG, IATA III
  - 14.5 Environmental hazards:
    - Marine pollutant: Yes
    - Special marking (ADR): Symbol (fish and tree)
    - Special marking (IATA): Symbol (fish and tree)
  - 14.6 Special precautions for user Warning: Miscellaneous dangerous substances and articles.
  - Danger code (Kemler): 90
  - EMS Number: F-A,S-F
  - 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

- **Transport/Additional information:**
  - ADR
    - Limited quantities (LQ) 5L
    - Transport category 3
    - Tunnel restriction code E
    - UN "Model Regulation": UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyethylene glycol octylphenol ether), 9, III

### 15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - United States (USA)
    - SARA Section 355 (extremely hazardous substances):
      - 7647-01-0 hydrochloric acid
Trade name: 60X Wash Solution

- **Section 313 (Specific toxic chemical listings):**
  - 7647-01-0 hydrochloric acid

- **TSCA (Toxic Substances Control Act):**
  - All ingredients are listed.

- **Proposition 65 (California):**
  - **Chemicals known to cause cancer:**
    - None of the ingredients is listed.
  - **Chemicals known to cause reproductive toxicity for females:**
    - None of the ingredients are listed.
  - **Chemicals known to cause reproductive toxicity for males:**
    - None of the ingredients is listed.
  - **Chemicals known to cause developmental toxicity:**
    - None of the ingredients is listed.

- **Carcinogenic Categories**
  - **EPA (Environmental Protection Agency)**
    - None of the ingredients is listed.
  - **IARC (International Agency for Research on Cancer)**
    - 7647-01-0 hydrochloric acid
      - 3
  - **TLV (Threshold Limit Value established by ACGIH)**
    - 7647-01-0 hydrochloric acid
      - A4
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - None of the ingredients is listed.

- **Canada**
  - **Canadian Domestic Substances List (DSL)**
    - All ingredients are listed.
  - **Canadian Ingredient Disclosure list (limit 0.1%)**
    - None of the ingredients is listed.
  - **Canadian Ingredient Disclosure list (limit 1%)**
    - 9002-93-1 Polyethylene glycol octylphenol ether
    - 7647-01-0 hydrochloric acid

- **Other regulations, limitations and prohibitive regulations**
  - This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

- **Substances of very high concern (SVHC) according to REACH, Article 57**
  - 9002-93-1 Polyethylene glycol octylphenol ether

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.
Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

Trade name: 60X Wash Solution

16 Other information
This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases
  H314  Causes severe skin burns and eye damage.
  H315  Causes skin irritation.
  H318  Causes serious eye damage.
  H335  May cause respiratory irritation.
  H400  Very toxic to aquatic life.
  H410  Very toxic to aquatic life with long lasting effects.
  R34   Causes burns.
  R36/38 Irritating to eyes and skin.
  R37   Irritating to respiratory system.
  R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  GHS: Globally Harmonized System of Classification and Labelling of Chemicals
  ACGIH: American Conference of Governmental Industrial Hygienists
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  WHMIS: Workplace Hazardous Materials Information System (Canada)
  DNEL: Derived No-Effect Level (REACH)
  PNEC: Predicted No-Effect Concentration (REACH)
  Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
  Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
  Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
  STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
  Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
  Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
  Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

Sources
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