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

- · 1.1 Product identifier
- · Trade name: PNA Probe + Hybridization Buffer
- · Article number: CP0001-CP0011, and CP0050-CP0055
- · 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: H360D, H412.

The following Hazard Statements are applicate only according to OSHA regulations within the United States. These Statements are not applicable for the CLP regulation (1272/2008/EC) in the EU. H360.



H360: May damage fertility or the unborn child



health hazard

Repr. 1B H360D May damage the unborn child.



H319 Causes serious eye irritation. Eye Irrit. 2

Aguatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

🐼 T; Toxic

R60-61: May impair fertility. May cause harm to the unborn child.



Xi; Irritant

Trade name: PNA Probe + Hybridization Buffer

R36: Irritating to eyes.

R52/53: Harmful 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.

· 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





GHS07 GHS08

- · Signal word Danger
- · Hazard-determining components of labelling:

formamide

· Hazard statements

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H360D, H412.

The following Hazard Statements are applicate only according to OSHA regulations within the United States. These Statements are not applicable for the CLP regulation (1272/2008/EC) in the EU. H360.

H360 May damage fertility or the unborn child.

H319 Causes serious eye irritation.

H360D May damage the unborn child.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P281 Use personal protective equipment as required.

P264 Wash thoroughly after handling.

P202 Do not handle until all safety precautions have been read and understood.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,

if present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

· Additional information:

Restricted to professional users. Keep out of the reach of children

Trade name: PNA Probe + Hybridization Buffer

- · Hazard description:
- · WHMIS-symbols:

D2A - Very toxic material causing other toxic effects



· NFPA ratings (scale 0 - 4)



Health = 2Fire = 0

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Fire = 0

REACTIVITY Reactivity = 0

* - Indicates a long term health hazard from repeated or prolonged exposures.

· 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 nephozordous additions

· Dangerous components:		
CAS: 75-12-7	formamide	25-50%
EINECS: 200-842-0	😡 T Repr. Cat. 2 R61	
Index number: 616-052-00-8		
CAS: 9002-93-1	Polyethylene glycol octylphenol ether	≤ 2,5%
	Xi R36/38; N R50/53	
	♦ Eye Dam. 1, H318	
	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
	Skin Irrit. 2, H315	
· SVHC		·
75-12-7 formamide		
9002-93-1 Polyethylene glyce	ol octylphenol ether	

Trade name: PNA Probe + Hybridization Buffer

· 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: Immediately remove any clothing soiled by the product.
- · 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.

· After eye contact:

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, 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

Headache

Slight irritant effect on skin and mucous membranes.

Irritant to eyes.

Nausea in case of ingestion.

Gastric or intestinal disorders when ingested.

Dizziness

· Hazards

Danger of disturbed cardiac rhythm.

Danger of convulsion.

Condition may deteriorate with alcohol consumption.

May damage fertility or the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed

May produce a teratogenic effect.

Treat skin and mucous membrane with antihistamine and corticoid preparations.

Monitor circulation.

5 Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents:

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · 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.

Trade name: PNA Probe + Hybridization Buffer

· 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

- 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.

Ensure adequate ventilation.

Clean the affected area carefully; suitable cleaners are:

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: Keep respiratory protective device available.
- · 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.

Do not store together with oxidizing and acidic materials.

· Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Protect from exposure to the light.

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

Trade name: PNA Probe + Hybridization Buffer

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:

75-12-7 formamide

REL (USA) Long-term value: 15 mg/m³, 10 ppm

Skin

TLV (USA) Long-term value: 18 mg/m³, 10 ppm

Skin

EL (Canada) Long-term value: 10 ppm

Skin

EV (Canada) Long-term value: 15 mg/m³, 10 ppm

Skin

- · **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.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Pregnant women should strictly avoid inhalation or skin contact.

Do not inhale gases / fumes / aerosols.

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.

Use suitable respiratory protective device when high concentrations are present.

· 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.

Trade name: PNA Probe + Hybridization Buffer

· 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: Clear to straw color.

Odour: Amine-like
Odour threshold: Not determined.
pH-value: Not determined.

· Change in condition

Melting point/Melting range:
Boiling point/Boiling range:
Undetermined.

Flash point:
Flammability (solid, gaseous):
Auto/Self-ignition temperature:
Not applicable.
Not determined.

Not determined.

Self-igniting: Product is not self-igniting.

Danger of explosion:
 Product does not present an explosion hazard.

· Explosion limits:

Lower:
Upper:
Not determined.
Not determined.

Vapour pressure:
Not determined.

Density:
Relative density
Not determined.
Not determined.
Not determined.
Not determined.
Not determined.

Trade name: PNA Probe + Hybridization Buffer

• Evaporation rate Not determined.

· Solubility in / Miscibility with

water: Fully miscible.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
- Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

· 10.3 Possibility of hazardous reactions

Toxic fumes may be released if heated above the decomposition point.

Reacts with strong alkali.

Reacts with acids.

Reacts with strong 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

Chlorine

Nitrogen oxides (NOx) Sulphur oxides (SOx)

11 Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity:
- · LD/LC50 values relevant for classification:

75-12-7 formamide

Oral LD50 5570 mg/kg (rat)

- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · 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:

ırrıtant

Trade name: PNA Probe + Hybridization Buffer

May damage fertility or the unborn child.

- · Repeated dose toxicity: May cause damage to organs through prolonged or repeated exposure.
- CMR effects (carcinogenity, mutagenicity and toxicity for reproduction): Repr. 1B

12 Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: The product contains materials that are harmful to the environment.
- 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.
- · Ecotoxical effects:
- · Remark: Harmful to fish
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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.

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. On the basis of the necessary technical regulations and after consultation with the disposal agent and the relevant authorities, can be disposed of with domestic waste or incinerated with domestic waste.

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, if necessary together with cleansing agents.

14 Transport information

- · 14.1 UN-Number
- · DOT, ADR, ADN, IMDG, IATA

Not Regulated

Trade name: PNA Probe + Hybridization Buffer

· 14.2 UN proper shipping name

· DOT, ADR, ADN, IMDG, IATA Not Regulated

· 14.3 Transport hazard class(es)

· DOT, ADR, ADN, IMDG, IATA

· Class Not Regulated

· 14.4 Packing group

· DOT, ADR, IMDG, IATA Not Regulated

· 14.5 Environmental hazards:

· Marine pollutant: No

• 14.6 Special precautions for user Not applicable.

· 14.7 Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code Not applicable.

· UN "Model Regulation":

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):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· 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)

None of the ingredients is listed.

Trade name: PNA Probe + Hybridization Buffer

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· 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%)

75-12-7 formamide

· Canadian Ingredient Disclosure list (limit 1%)

9002-93-1 Polyethylene glycol octylphenol ether

· 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

75-12-7 formamide

9002-93-1 Polyethylene glycol octylphenol ether

• 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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

H315 Causes skin irritation.

H318 Causes serious eye damage.

H360D May damage the unborn child.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

R36/38 Irritating to eyes and skin.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R61 May cause harm to the unborn child.

· 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)

Trade name: PNA Probe + Hybridization Buffer

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 1B: Reproductive toxicity, Hazard Category 1B
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1 Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

Sources

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: www.chemtelinc.com

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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

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.

DCN 28-18 Page 1/12 PN2643B-FN 27Mar2018

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



This pictogram only applicable for EU regulations. Not for use in the United States (OSHA GHS).





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



DCN 28-18 Page 2/12 PN2643B-EN 27Mar2018

Trade name: 60X Wash Solution

· NFPA ratings (scale 0 - 4)



Health = 2 Fire = 0

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



2 Health = 2

☐ Fire = 0

REACTIVITY 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.

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

· SVHC

9002-93-1 Polyethylene 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.

DCN 28-18 Page 3/12 PN2643B-EN 27Mar2018

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:

DCN 28-18 Page 4/12 PN2643B-EN 27Mar2018

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

IOELV (EU) Short-term value: 15 mg/m³, 10 ppm

Long-term value: 8 mg/m³, 5 ppm

PEL (USA) Ceiling limit: 7 mg/m³, 5 ppm

REL (USA) Ceiling limit: 7 mg/m³, 5 ppm

TLV (USA) Ceiling limit: 2,98 mg/m³, 2 ppm

EL (Canada) Short-term value: C 2 ppm

- · 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.

DCN 28-18 Page 5/12 PN2643B-EN 27Mar2018

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

- \cdot 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

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Trade name: 60X Wash Solution

· Change in condition

Melting point/Melting range:
Boiling point/Boiling range:
Undetermined.

Flash point:
Flammability (solid, gaseous):
Auto/Self-ignition temperature:
Not applicable.
Not determined.
Not determined.

Self-igniting: Product is not self-igniting.

• Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:
Upper:
Not determined.
Not determined.

Vapour pressure:
Not determined.

Density:
Not determined.

Relative density
Not determined.

Vapour density
Not determined.

Not determined.

Not determined.

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
- · Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

- 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

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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:

· 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.
- · Ecotoxical 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.

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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

· ADR, IMDG, IATA

Not Regulated UN3082

· 14.2 UN proper shipping name



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.

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Trade name: 60X Wash Solution

· Label 9

· IMDG

₩

• Class 9 Miscellaneous dangerous substances and articles.

· Label

·IATA



• Class 9 Miscellaneous dangerous substances and articles.

· Label 9

· 14.4 Packing group

· **DOT** Not Regulated

· ADR, IMDG, IATA

· 14.5 Environmental hazards:

· Marine pollutant: Yes

Special marking (ADR):
 Special marking (IATA):
 Symbol (fish and tree)
 Symbol (fish and tree)

• 14.6 Special precautions for user Warning: Miscellaneous dangerous substances and

articles.

Danger code (Kemler): 90EMS 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)
 Transport category
 Tunnel restriction code

• 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

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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.

DCN 28-18 Page 11/12 PN2643B-EN 27Mar2018

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.
- May cause respiratory irritation. H335
- 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.
- Irritating to respiratory system. R37
- 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 - AcuteHazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Čategory 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

Sources

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Website: www.chemtelinc.com

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

· 1.1 Product identifier

· Trade name: Fixation Solution

· Article number: CP0021

· 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: H412.



Eve Irrit. 2 H319 Causes serious eye irritation.

Aguatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Irritant

R36: Irritating to eyes.

R52/53: Harmful 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.

· 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.

Trade name: Fixation Solution

· Hazard pictograms



· Signal word Warning

· Hazard statements

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H412.

H319 Causes serious eye irritation.

H412 Harmful 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.

P337+P313 If eye irritation persists: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

Additional information:

Contains 5-chloro-2-methyl-2H-isothiazol-3-one, 2-methyl-2H-isothiazol-3-one. May produce an allergic reaction.

- · Hazard description:
- · WHMIS-symbols:

D2B - Toxic material causing other toxic effects



· NFPA ratings (scale 0 - 4)



Health = 1

Fire = 0 Reactivity = 0

· HMIS-ratings (scale 0 - 4)



1 Health = 1

○ Fire = 0

REACTIVITY 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.

Trade name: Fixation Solution

· vPvB: Not applicable.

3 Composition/information on ingredients

- · 3.2 Mixtures
- · Description: Mixture of substances listed below with nonhazardous additions.
- · Dangerous components:

9002-93-1 Polyethylene glycol octylphenol ether

≤ 2,5%

Xi R36/38; W N R50/53

♦ Eye Dam. 1, H318

& Aquatic Acute 1, H400; Aquatic Chronic 1, H410

Kin Irrit. 2, H315

· SVHC

9002-93-1 Polyethylene 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: Immediately remove any clothing soiled by the product.
- · 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.

· After eye contact:

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, 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

Irritant to eyes.

Slight irritant effect on skin and mucous membranes.

Nausea in case of ingestion.

Gastric or intestinal disorders when ingested.

Allergic reactions

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

Contains 5-chloro-2-methyl-2H-isothiazol-3-one, 2-methyl-2H-isothiazol-3-one. May produce an allergic reaction.

Treat skin and mucous membrane with antihistamine and corticoid preparations.

Trade name: Fixation Solution

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

- 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.

Ensure adequate ventilation.

Clean the affected area carefully; suitable cleaners are:

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

Use only in well ventilated areas.

Avoid splashes or spray in enclosed areas.

Prevent formation of aerosols.

- · 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.

Trade name: Fixation Solution

Avoid storage near extreme heat, ignition sources or open flame.

- · Information about storage in one common storage facility: Store away from foodstuffs.
- · Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

• 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:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · **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.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

· 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.

Trade name: Fixation Solution

· 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:** 7,5 - 8,5

· Change in condition

Melting point/Melting range:
Boiling point/Boiling range:
Undetermined.

Not applicable.

Flammability (solid, gaseous):
Auto/Self-ignition temperature:
Not determined.

Not determined.

Self-igniting: Product is not self-igniting.

• Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:
Upper:
Not determined.
Not determined.

Vapour pressure:
Not determined.

Density:
Relative density
Vapour density
Vapour density
Not determined.
Not determined.
Not determined.
Not determined.

Trade name: Fixation Solution

· 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
- Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

· 10.3 Possibility of hazardous reactions

Reacts with acids.

Reacts with strong alkali.

Reacts with strong 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

Chlorine

Phosphorus oxides (e.g. P2O5)

11 Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: Slight irritant effect on skin and mucous membranes.
- · on the eve: Irritating effect.
- · Sensitization: Sensitizing effect by skin contact is possible by prolonged exposure.
- · 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

12 Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: The product contains materials that are harmful to the environment.
- 12.2 Persistence and degradability The product is partially biodegradable. Significant residuals remain.

Trade name: Fixation Solution

- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- · Ecotoxical effects:
- · Remark: Harmful to fish
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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.

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. On the basis of the necessary technical regulations and after consultation with the disposal agent and the relevant authorities, can be disposed of with domestic waste or incinerated with domestic waste.

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, if necessary together with cleansing agents.

14 Transport information

· 14.1 UN-Number

· DOT, ADR, ADN, IMDG, IATA Not Regulated

· 14.2 UN proper shipping name

· DOT, ADR, ADN, IMDG, IATA Not Regulated

· 14.3 Transport hazard class(es)

· DOT, ADR, ADN, IMDG, IATA

· Class Not Regulated

· 14.4 Packing group

· DOT, ADR, IMDG, IATA Not Regulated

· 14.5 Environmental hazards:

· Marine pollutant: No

Trade name: Fixation Solution

· 14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code

Not applicable.

· UN "Model Regulation":

-

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):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· 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)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· 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.

Trade name: Fixation Solution

· Canadian Ingredient Disclosure list (limit 1%)

9002-93-1 Polyethylene glycol octylphenol ether

· 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.

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

H315 Causes skin irritation.

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

R36/38 Irritating to eyes and skin.

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 Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

Sources

SDS Prepared by:

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Website: www.chemtelinc.com

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

· 1.1 Product identifier

· Trade name: Mounting Medium

· Article number: CP0023

• 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



Skin Sens. 1 H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



R43: May cause sensitisation by skin contact.

· 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.

· 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



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Trade name: Mounting Medium

- · Signal word Warning
- · Hazard-determining components of labelling:

propyl 3,4,5-trihydroxybenzoate

· Hazard statements

H317 May cause an allergic skin reaction.

· Precautionary statements

P280 Wear protective gloves / eye protection.
 P261 Avoid breathing mist/vapours/spray.
 P363 Wash contaminated clothing before reuse.

P333+P313 If skin irritation or rash 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.

· Additional information:

Contains propyl 3,4,5-trihydroxybenzoate. May produce an allergic reaction.

- · Hazard description:
- · WHMIS-symbols:

D2B - Toxic material causing other toxic effects



· NFPA ratings (scale 0 - 4)



Health = 1 Fire = 0

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



1 Health = 1

Fire = 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.

Trade name: Mounting Medium

· Dangerous components:		
CAS: 56-81-5 EINECS: 200-289-5	glycerol substance with a Community workplace exposure limit	50-100%
CAS: 121-79-9 EINECS: 204-498-2	propyl 3,4,5-trihydroxybenzoate Xn R22; Xi R43	10-25%
Index number: 607-198-00-3	Acute Tox4, H302; Skin Sens. 1, H317	

[·] 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: Immediately remove any clothing soiled by the product.
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· After eye contact:

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, 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

Allergic reactions

Slight irritant effect on skin and mucous membranes.

Slight irritant effect on eyes.

Nausea in case of ingestion.

Gastric or intestinal disorders when ingested.

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

Treat skin and mucous membrane with antihistamine and corticoid preparations.

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.

Trade name: Mounting Medium

· 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.
- · 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.

Ensure adequate ventilation.

Clean the affected area carefully; suitable cleaners are:

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.

Store in cool, dry place in tightly closed receptacles.

Ensure good ventilation/exhaustion at the workplace.

- · Information about fire and explosion protection: Keep respiratory protective device available.
- · 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.
- · Information about storage in one common storage facility:

Store away from foodstuffs.

Do not store together with oxidizing and acidic materials.

· Further information about storage conditions:

Protect from heat and direct sunlight.

Protect from exposure to the light.

· 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.

Trade name: Mounting Medium

· 8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:

56-81-5 glycerol

PEL (USA) Long-term value: 15* 5** mg/m³

*total dust **respirable fraction

TLV (USA) TLV withdrawn-insufficient data human occup. exp.

EL (Canada) Long-term value: 10* 3** mg/m³

*mist; **mist, respirable

EV (Canada) Long-term value: 10 mg/m³

- · 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.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eves and skin.

Do not inhale gases / fumes / aerosols.

· Respiratory protection:

Not required under normal conditions of use.

For spills, respiratory protection may be advisable.

Use suitable respiratory protective device in case of insufficient ventilation.

· 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

Trade name: Mounting Medium

· 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: Gel liquid.
Colour: Clear

Odour: Nearly odourlessOdour threshold: Not determined.

• **pH-value:** 10,0 - 11,0

· Change in condition

Melting point/Melting range:
Boiling point/Boiling range:
Undetermined.

Flash point:
Flammability (solid, gaseous):
Auto/Self-ignition temperature:
Not applicable.
Not determined.

Not determined.

Self-igniting: Product is not self-igniting.

• Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:
Upper:
Not determined.
Not determined.

Vapour pressure:
Not determined.

Density:
Not determined.
Relative density
Vapour density
Not determined.
Vapour density
Not determined.
Not determined.
Not determined.

· Solubility in / Miscibility with

water: Soluble.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not determined. **Kinematic:** Not determined.

Trade name: Mounting Medium

· 9.2 Other information

No further relevant information available.

10 Stability and reactivity

- · 10.1 Reactivity
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Reacts with acids.

Reacts with strong oxidizing agents.

Toxic fumes may be released if heated above the decomposition point.

- 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

11 Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity:
- · LD/LC50 values relevant for classification:

121-79-9 propyl 3,4,5-trihydroxybenzoate

Oral LD50 2100 mg/kg (rat)

- · Primary irritant effect:
- · on the skin: Slight irritant effect on skin and mucous membranes.
- · on the eye: Slight irritant effect on eyes.
- · Sensitization: Sensitization possible through skin contact.
- · 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

Danger through skin adsorption.

Toxic and/or corrosive effects may be delayed up to 24 hours.

· Repeated dose toxicity: Repeated exposures may result in skin and/or respiratory sensitivity.

12 Ecological information

- · 12.1 Toxicity
- Aquatic toxicity: The product contains materials that are harmful to the environment.
- 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.

Trade name: Mounting Medium

- · Additional ecological information:
- · General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.

- · 12.5 Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

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. On the basis of the necessary technical regulations and after consultation with the disposal agent and the relevant authorities, can be disposed of with domestic waste or incinerated with domestic waste.

The user of this material has the responsibility to dispose of unused material, residues and containers in

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, if necessary together with cleansing agents.

14 Transport information

· 14.1 UN-Number

· DOT, ADR, ADN, IMDG, IATA Not Regulated

· 14.2 UN proper shipping name

· DOT, ADR, ADN, IMDG, IATA Not Regulated

· 14.3 Transport hazard class(es)

· DOT, ADR, ADN, IMDG, IATA

- Class Not Regulated

· 14.4 Packing group

· DOT, ADR, IMDG, IATA Not Regulated

· 14.5 Environmental hazards:

· Marine pollutant: No

• 14.6 Special precautions for user Not applicable.

· 14.7 Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code Not applicable.

· UN "Model Regulation":

Trade name: Mounting Medium

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):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· 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)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· 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%)

None of the ingredients is listed.

· 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.

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Trade name: Mounting Medium

· Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients is listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

R22 Harmful if swallowed.

R43 May cause sensitisation by skin contact.

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Sources

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