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

1.1 Product identifier

- Trade name IGEPAL CO-987

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

- no data available

1.3 Details of the supplier of the safety data sheet

Company

Solvay USA Inc.,
NOVECARE
504 Carnegie Center
Princeton, NJ, 08540, US
Telephone Number: 800-973-7873

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

2.3 Other hazards which do not result in classification

- H413: May cause long lasting harmful effects to aquatic life.

- Slightly irritating to eyes and skin.
- No specific risk when handled in accordance with good occupational hygiene and safety practice.
- Does NOT present any particular fire hazard.
- Harmful or toxic vapors are released.
- Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: "Stability-Reactivity").

SECTION 3: Composition/information on ingredients

3.1 Substance

- Not applicable, this product is a mixture.

3.2 Mixture

- Chemical nature Aqueous solution of nonyl phenol ethoxylate

Hazardous Ingredients and Impurities

- No ingredients are hazardous.

Non Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Alternative CAS #: 127087-87-0		
Nonylphenol, branched, ethoxylated	68412-54-4	70
Water	7732-18-5	30

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

- Show this material safety data sheet to the doctor in attendance.
- First responder needs to protect himself.
- Place affected apparel in a sealed bag for subsequent decontamination.

In case of inhalation

- Negligible or unlikely exposure pathways
- Move to fresh air in case of accidental inhalation of vapors.
- If symptoms persist, call a physician.

In case of skin contact

- Wash off immediately with plenty of water for at least 15 minutes.
- If a person feels unwell or symptoms of skin irritation appear, consult a physician.
- Remove contaminated clothing and shoes.
- Wash contaminated clothing before re-use.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If eye irritation persists, consult a physician.

In case of ingestion

- If victim is conscious:
- Rinse mouth with water.
- Keep at rest.

- Do not induce vomiting without medical advice.
- Do not leave the victim unattended.
- Vomiting may occur spontaneously
- Risk of product entering the lungs on vomiting after ingestion.
- Lay victim on side.
- Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Effects

- Skin contact may aggravate existing skin disease

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

- Treat symptomatically.
- There is no specific antidote available.

SECTION 5: Firefighting measures

Flash point	> 200 °F (> 93 °C) Pensky-Martens closed cup Flammability class: Will burn
Autoignition temperature	no data available
Flammability / Explosive limit	no data available

5.1 Extinguishing media

Suitable extinguishing media

- Dry chemical
- Carbon dioxide (CO2)
- Foam

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting

- Under fire conditions:
- Will burn

Hazardous combustion products:

- On combustion or on thermal decomposition (pyrolysis), releases:
- Carbon oxides

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

Specific fire fighting methods

- Cool containers/tanks with water spray.

Further information

- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Avoid contact with the skin and the eyes.
- Keep away from flames and sparks.

- Remove all sources of ignition.
- Ventilate the area.
- Wear suitable protective equipment.
- For personal protection see section 8.

6.2 Environmental precautions

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies

Risk Management Measures to control aqueous release

- Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Recovery

- Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
- Sweep up or vacuum up spillage and collect in suitable container for disposal.
- Never return spills in original containers for re-use.

Decontamination / cleaning

- Wash with plenty of water and detergent.
- Wash nonrecoverable remainder with large amounts of water.
- Recover the cleaning water for subsequent disposal.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.

Disposal

- Dispose of in accordance with local regulations.

Methods for containment

- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.

Additional advice

- Material can create slippery conditions.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Non-sparking tools should be used.
- Ensure all equipment is electrically grounded before beginning transfer operations.

- Handle in accordance with good industrial hygiene and safety practice.
- Avoid splashes.
- Avoid inhalation, ingestion and contact with skin and eyes.
- Avoid localized overheating.
- Vent drums while heating
- Mix thoroughly before use.

- Ethylene oxide may collect in container head space.
- Provide adequate ventilation.

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.

- Use clean, well maintained personal protection equipment.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Does not require any specific or particular measures.

- Keep container tightly closed in a dry and well-ventilated place.

- Keep away from incompatible materials to be indicated by the manufacturer
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep away from direct sunlight.

Requirements for storage rooms and vessels

Recommended storage temperature: 59 - 120 °F (15 - 49 °C)
- Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.
- Low pressure steam or a water bath may be used to melt solidified material
- For further information, refer to section 10: "Stability and Reactivity."

7.3 Specific end use(s)

- no data available

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

- Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Control measures

Engineering measures

- Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures :

- Effective exhaust ventilation system

Individual protection measures

Respiratory protection

- When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.
- No personal respiratory protective equipment normally required.

Hand protection

- Where there is a risk of contact with hands, use appropriate gloves
- Gloves must be inspected prior to use.
- Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Eye protection

- Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.
- Eye contact should be prevented through the use of:

- Safety glasses with side-shields

Skin and body protection

- Protective suit
- Impervious clothing
- Footwear protecting against chemicals

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.

- Use clean, well maintained personal protection equipment.

Protective measures

- Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards, and/or risks that may occur during use.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Emergency equipment immediately accessible, with instructions for use.
- The protective equipment must be selected in accordance with current local standards and in cooperation with the supplier of the protective equipment.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

Appearance	Form: viscous Physical state: liquid Color: clear
Odor	aromatic
Odor Threshold	no data available
pH	6.0 - 8.0 (10 % (m/v))
Melting point/freezing point	Freezing point: 45 - 64 °F (7 - 18 °C)
Initial boiling point and boiling range	> Boiling point/boiling range: 212 °F (100 °C) (760 mmHg (1,013.25 hPa))
Flash point	> 200 °F (> 93 °C) Pensky-Martens closed cup Flammability class: Will burn
Evaporation rate (Butylacetate = 1)	no data available
Flammability (solid, gas)	no data available
Flammability (liquids)	no data available
Flammability / Explosive limit	no data available
Autoignition temperature	no data available
Vapor pressure	< 23 mmHg (30.66 hPa) (77 °F (25 °C))
Vapor density	no data available
Density	
Relative density	1.1 (77 °F (25 °C))
Solubility	Water solubility: soluble
Partition coefficient: n-octanol/water	no data available
Decomposition temperature	no data available
Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available

9.2 Other information

Volatiles by Volume	30 %

SECTION 10: Stability and reactivity

10.1 Reactivity

- Stable at normal ambient temperature and pressure.

10.2 Chemical stability

- Stable under normal conditions.
- Stable under recommended storage conditions.
- See chapter
- 7. HANDLING AND STORAGE

10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

polymerization
- Hazardous polymerization does not occur.

10.4 Conditions to avoid

- Keep away from flames and sparks.
- Keep away from heat and sources of ignition.

10.5 Incompatible materials

- Strong acids
- Strong bases
- Strong oxidizing agents
- Strong reducing agents

10.6 Hazardous decomposition products

- On combustion or on thermal decomposition (following the evaporation of water) releases:
- (Carbon oxides (CO + CO2)).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Nonylphenol, branched, ethoxylated	Not classified as hazardous for acute oral toxicity according to GHS. category approach Unpublished reports Unpublished internal reports CESIO
Acute inhalation toxicity	no data available

Acute dermal toxicity

Nonylphenol, branched, ethoxylated	Not classified as hazardous for acute dermal toxicity according to GHS. category approach Expert judgment
Acute toxicity (other routes of administration)	no data available

Skin corrosion/irritation

Nonylphenol, branched, ethoxylated	Not classified as irritating to skin category approach Unpublished internal reports CESIO

Serious eye damage/eye irritation

Nonylphenol, branched, ethoxylated	Not classified as irritating to eyes category approach CESIO

Respiratory or skin sensitization

Nonylphenol, branched, ethoxylated	category approach The product is not considered to be sensitizing by skin contact.

Mutagenicity

Genotoxicity in vitro	no data available
Genotoxicity in vivo	no data available
Carcinogenicity	no data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP
IARC
OSHA
ACGIH

Toxicity for reproduction and development

Toxicity to reproduction / fertility	no data available
Developmental Toxicity/Teratogenicity	no data available

STOT

STOT-single exposure

Nonylphenol, branched, ethoxylated	Routes of exposure: Ingestion The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria. internal evaluation

STOT-repeated exposure

Nonylphenol, branched, ethoxylated	Routes of exposure: Ingestion The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria. category approach, internal evaluation
Nonylphenol, branched, ethoxylated	category approach Subchronic toxicity Not considered to cause serious damage to health on repeated exposure

Aspiration toxicity no data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Nonylphenol, branched, ethoxylated	category approach Not harmful to fish (LC/LL50 > 100 mg/L)

Acute toxicity to daphnia and other aquatic invertebrates.

Nonylphenol, branched, ethoxylated	category approach Not harmful to aquatic invertebrates. (EC/EL50 > 100 mg/L)

Toxicity to aquatic plants

Nonylphenol, branched, ethoxylated	category approach Not harmful to algae (EC/EL50 > 100 mg/L)

Toxicity to microorganisms	no data available
Chronic toxicity to fish	no data available
Chronic toxicity to daphnia and other aquatic invertebrates.	no data available
Chronic Toxicity to aquatic plants	no data available

12.2 Persistence and degradability

Abiotic degradation	no data available
Physical- and photo-chemical elimination	no data available

Biodegradation

Biodegradability

Nonylphenol, branched, ethoxylated	Ready biodegradability study: The substance does not fulfill the criteria for ready biodegradability and ultimate aerobic biodegradability category approach Expert judgment

Degradability assessment

Nonylphenol, branched, ethoxylated	The product is not considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water	no data available
Bioconcentration factor (BCF)	
Nonylphenol, branched, ethoxylated	category approach Expert judgment Not potentially bioaccumulable

12.4 Mobility in soil

Adsorption potential (Koc)	no data available
Known distribution to environmental compartments	no data available

12.5 Results of PBT and vPvB assessment

Nonylphenol, branched, ethoxylated	This substance is not considered to be persistent, bioaccumulating, and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects no data available

Ecotoxicity assessment

Acute aquatic toxicity	According to the data on the components The product does not have any known adverse effects on the aquatic organisms tested According to the classification criteria for mixtures.
Chronic aquatic toxicity	According to the data on the components May cause long lasting harmful effects to aquatic life. According to the classification criteria for mixtures.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

Prohibition

- Should not be released into the environment.
- Do not let product enter drains.

- Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local

requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Waste Code

- Environmental Protection Agency
- Hazardous Waste – NO

Advice on cleaning and disposal of packaging

- Empty the packaging completely prior to disposal.
- Completely empty the packaging prior to decontamination.
- Carefully drain and then steam clean.
- Offer rinsed packaging material to local recycling facilities.

- Dispose of in accordance with local regulations.

SECTION 14: Transport information

DOT
not regulated

TDG
not regulated

NOM
not regulated

IMDG
not regulated

IATA
not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- On TSCA Inventory
Canadian Domestic Substances List (DSL)	- All components of this product are on the Canadian DSL
Australia Inventory of Chemical Substances (AICS)	- On the inventory, or in compliance with the inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- On the inventory, or in compliance with the inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- On the inventory, or in compliance with the inventory

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA Hazard Designation Sections 311/312 (40 CFR 370)

Fire Hazard	no
Reactivity Hazard	no
Sudden Release of Pressure Hazard	no
Acute Health Hazard	no
Chronic Health Hazard	no

Section 313 Toxic Chemicals (40 CFR 372.65)
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

Ingredients	CAS-No.	Reportable quantity
Ethylene Oxide	75-21-8	10 lb

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

Ingredients	CAS-No.	Reportable quantity
Ethylene Oxide	75-21-8	10 lb

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Ingredients	CAS-No.	Reportable quantity
Ethylene Oxide	75-21-8	10 lb
1,4-Dioxane	123-91-1	100 lb
Acetaldehyde	75-07-0	1000 lb

Other regulations

FDA status

- This product meets the compositional requirements of:
- 21 CFR 176.180 COMP'TS OF PAPER/PAPERBOARD CONT./DRY FOOD

15.3 State Regulations

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

WARNING! This product contains a chemical known in the State of California to cause cancer.

Ingredients	CAS-No.
1,4-Dioxane	123-91-1
Acetaldehyde	75-07-0
Ethylene Oxide	75-21-8

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Ingredients	CAS-No.
Ethylene Oxide	75-21-8

SECTION 16: Other information

NFPA (National Fire Protection Association) - Classification

Health	1 slight
Flammability	1 slight
Instability or Reactivity	0 minimal

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

Health	1 slight
Flammability	1 slight
Reactivity	0 minimal
PPE	Determined by User; dependent on local conditions

Further information

- Product evaluated under the US GHS format.
- This sheet was updated (refer to the date at the top of this page). Subheadings and text which have been modified since the previous version are indicated with two vertical bars.

Date Prepared: 04/10/2017

- ACGIH American Conference of Governmental Industrial Hygienists
- OSHA Occupational Safety and Health Administration
- NTP National Toxicology Program
- IARC International Agency for Research on Cancer
- NIOSH National Institute for Occupational Safety and Health

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.