

SAFETY DATA SHEET



Conforms to Official Mexican Standard NOM-018-STPS-2015

Date of revision 29 April 2026
Version 1

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

Product name : RAVEN 405 BLUE - B
Product code : 00488205
Other means of identification : Not applicable.
Product type : Liquid.

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

Product use : Professional applications, Used by spraying.
Use of the substance/mixture : Coating.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
SETIQ Interior de la República: 800-00-214-00 (México)
SETIQ Ciudad de México: (55) 5559-1588 (México)

Technical Phone Number : 888-977-4762

SECTION 2: Hazards identification

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 5
ACUTE TOXICITY (inhalation) - Category 2
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 2
TOXIC TO REPRODUCTION - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity:
9.6% (oral), 20.8% (dermal), 65.8% (inhalation)

GHS label elements

Hazard pictograms :



SECTION 2: Hazards identification

- Signal word** : Danger
- Hazard statements** : H302 - Harmful if swallowed.
H313 - May be harmful in contact with skin.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H330 - Fatal if inhaled.
H341 - Suspected of causing genetic defects.
H360 - May damage fertility or the unborn child.
H373 - May cause damage to organs through prolonged or repeated exposure. (kidneys)
- Precautionary statements**
- Prevention** : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P284 - In case of inadequate ventilation wear respiratory protection.
P271 - Use only outdoors or in a well-ventilated area.
P260 - Do not breathe vapor.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
- Response** : P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.
P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P363 - Wash contaminated clothing before reuse.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- Storage** : P405 - Store locked up.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Other hazards which do not result in classification** : Causes digestive tract burns. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C (140F). Emits toxic fumes when heated.

See toxicological information (Section 11)

SECTION 3: Composition/information on ingredients

- Substance/mixture** : Mixture
- Product name** : RAVEN 405 BLUE - B
- Other means of identification** : Not applicable.

SECTION 3: Composition/information on ingredients

Ingredient name	%	CAS number
m-phenylenebis(methylamine)	≥20 - ≤22	1477-55-0
4-nonylphenol, branched	≥10 - ≤16	84852-15-3
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	≥10 - ≤13	9046-10-0 (n = 2-6)
1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	≥5.0 - ≤10	110839-13-9
3-aminomethyl-3,5,5-trimethylcyclohexylamine	≥1.0 - ≤6.7	2855-13-2
2,2'-iminodiethylamine	≥1.0 - ≤6.7	111-40-0
4,4'-methylenebis(cyclohexylamine)	≥1.0 - ≤5.0	1761-71-3
Formaldehyde, polymer with benzenamine, hydrogenated	≥1.0 - ≤5.0	135108-88-2
bisphenol A	≥1.0 - ≤3.6	80-05-7
phenol	≤1.3	108-95-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures**Description of necessary first aid measures**

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed**Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : Fatal if inhaled.
- Skin contact** : Causes severe burns. May be harmful in contact with skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

See toxicological information (Section 11)

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 4: First aid measures

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

SECTION 5: Firefighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
Formaldehyde.

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7: Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Special precautions** : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

SECTION 8: Exposure controls/personal protection

Ingredient name	Exposure limits
m-phenylenebis(methylamine)	NOM-010-STPS-2014 (Mexico, 4/2016) Absorbed through skin. CEIL: 0.1 mg/m ³ .
4-nonylphenol, branched	None.
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	None.
1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	None.
3-aminomethyl-3,5,5-trimethylcyclohexylamine	None.
2,2'-iminodiethylamine	NOM-010-STPS-2014 (Mexico, 4/2016) Absorbed through skin. TWA 8 hours: 1 ppm.
4,4'-methylenebis(cyclohexylamine)	None.
Formaldehyde, polymer with benzenamine, hydrogenated	None.
bisphenol A	None.
phenol	NOM-010-STPS-2014 (Mexico, 4/2016) Absorbed through skin. TWA 8 hours: 5 ppm.

Key to abbreviations

C = Ceiling Limit

IPEL = Internal Permissible Exposure Limit

STEL = Short term exposure limit

TLV = Threshold Limit Value

TWA = Time Weighted Average

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles and face shield.

Skin protection**Hand protection**

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

SECTION 8: Exposure controls/personal protection

- Gloves** : butyl rubber
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

SECTION 9: Physical and chemical propertiesAppearance

- Physical state** : Liquid.
- Color** : Blue.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- Molecular weight** : Not applicable.
- pH** : Not applicable.
- Melting point** : Not available.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 100°C (212°F)
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Flammability** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Evaporation rate** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 1.05
- Density (lbs / gal)** : 8.76
- | Solubility(ies) | Media | Result |
|------------------------|--------------|---------------|
| | cold water | Not soluble |
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not applicable.
- Viscosity** : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): >21 mm²/s (>21 cSt)
- % Solid. (w/w)** : 99.997

SECTION 10: Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.
- Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions:
oxidizing agents, strong alkalis, strong acids.
- Hazardous decomposition products** : Depending on conditions, decomposition products may include the following materials:
carbon oxides nitrogen oxides Formaldehyde.

SECTION 11: Toxicological information**Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Dose
m-phenylenebis(methylamine)	Rat - Oral - LD50 Rat - Male, Female - Dermal - LD50	930 mg/kg >3100 mg/kg
4-nonylphenol, branched	Rat - Inhalation - LC50 Gas. Rabbit - Dermal - LD50	700 ppm [1 hours] 2.14 g/kg
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	Rat - Oral - LD50 Rat - Oral - LD50	1300 mg/kg 2885 mg/kg
1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	Rat - Dermal - LD50 Rat - Female - Oral - LD50	2980 mg/kg 1000 mg/kg
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Rat - Male, Female - Dermal - LD50 Rat - Oral - LD50	>2000 mg/kg 1030 mg/kg
2,2'-iminodiethylamine	Rat - Dermal - LD50 Rat - Inhalation - LC50 Dusts and mists Rat - Oral - LD50 Rabbit - Dermal - LD50 Rat - Inhalation - LC50 Dusts and mists	>2000 mg/kg >5.01 mg/l [4 hours] 1080 mg/kg 1090 mg/kg 0.07 to 0.3 mg/l [4 hours]
4,4'-methylenebis(cyclohexylamine)	Rat - Oral - LD50 Rabbit - Dermal - LD50	0.625 g/kg 2.11 g/kg
Formaldehyde, polymer with benzenamine, hydrogenated bisphenol A	Rat - Oral - LD50	300 mg/kg
phenol	Rat - Oral - LD50 Rabbit - Dermal - LD50 Rat - Dermal - LD50 Rat - Oral - LD50	3.25 g/kg 3600 mg/kg 669 mg/kg 0.34 g/kg

SECTION 11: Toxicological information

Rat - Inhalation - LC50 Dusts and mists

900 mg/m³ [4 hours]**Product Conclusion** : There are no data available on the mixture itself.**Skin corrosion/irritation**

Product/ingredient name	Species	Dose	Score
m-phenylenebis (methylamine)	Rat - Skin - Severe irritant	Duration of treatment/exposure: 4 hours Observation period: 4 hours	-
4-nonylphenol, branched	Rabbit - Skin - Erythema/ Eschar	-	Irritation score: 4

Conclusion/Summary : There are no data available on the mixture itself.**Serious eye damage/eye irritation****Conclusion/Summary** : There are no data available on the mixture itself.**Respiratory corrosion/irritation****Conclusion/Summary** : There are no data available on the mixture itself.**Sensitization**

Product/ingredient name	Species	Result
m-phenylenebis(methylamine)	Mouse - skin OECD 429	Result: Sensitizing
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Guinea pig - skin OECD 406	Result: Sensitizing

Skin**Conclusion/Summary** : There are no data available on the mixture itself.**Respiratory****Conclusion/Summary** : There are no data available on the mixture itself.**Mutagenicity****Conclusion/Summary** : There are no data available on the mixture itself.**Carcinogenicity****Conclusion/Summary** : There are no data available on the mixture itself.**Classification**

Product/ingredient name	OSHA	IARC	NTP
phenol	-	3	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4

NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen

OSHA: +

Not listed/not regulated: -

Reproductive toxicity**Conclusion/Summary** : There are no data available on the mixture itself.**Specific target organ toxicity (single exposure)**

Product/ingredient name	Result
2,2'-iminodiethylamine	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
bisphenol A	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Specific target organ toxicity (repeated exposure)

SECTION 11: Toxicological information

Product/ingredient name	Result
4,4'-methylenebis(cyclohexylamine)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (oral) - Category 2
Formaldehyde, polymer with benzenamine, hydrogenated	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) (oral) - Category 2
phenol	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Target organs : Contains material which causes damage to the following organs: skin. Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, the reproductive system, liver, gastrointestinal tract, cardiovascular system, upper respiratory tract, central nervous system (CNS), eye, lens or cornea, muscle tissue.

Information on the likely routes of exposure**Potential acute health effects**

Eye contact : Causes serious eye damage.
Inhalation : Fatal if inhaled.
Skin contact : Causes severe burns. May be harmful in contact with skin. May cause an allergic skin reaction.
Ingestion : Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
 pain
 watering
 redness

Inhalation : Adverse symptoms may include the following:
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Skin contact : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Ingestion : Adverse symptoms may include the following:
 stomach pains
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. This product either contains formaldehyde or is capable of releasing formaldehyde above 0.5 ppm under certain conditions. Formaldehyde is a known cancer hazard, a skin sensitizer and a respiratory sensitizer. Can form nitrosamines in the presence of certain organic materials and if heated. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact. Exposure to amine vapor has been reported to cause transient corneal edema described as blue haze, halo effect, foggy

SECTION 11: Toxicological information

or blurred vision for several hours. This condition is typically temporary and does not cause permanent visual effects. When the proper eye protection specified in Section 8 is worn, exposure is significantly reduced and the condition has not been observed.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

Conclusion/Summary : There are no data available on the mixture itself.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : Suspected of causing genetic defects.

Reproductive toxicity : May damage fertility or the unborn child.

Numerical measures of toxicity**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
RAVEN 405 BLUE - B	1042.3	2177.3	7541.4	N/A	0.27
m-phenylenebis(methylamine)	930	2500	4500	N/A	N/A
4-nonylphenol, branched	1300	2140	N/A	N/A	N/A
Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-	2885	2980	N/A	N/A	N/A
1,3-Benzenedimethanamine, polymer with 2,2'-(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	1000	2500	N/A	N/A	N/A
3-aminomethyl-3,5,5-trimethylcyclohexylamine	1030	2500	N/A	N/A	N/A
2,2'-iminodiethylamine	1080	1090	N/A	N/A	0.05
4,4'-methylenebis(cyclohexylamine)	625	2110	N/A	N/A	N/A
Formaldehyde, polymer with benzenamine, hydrogenated	300	N/A	N/A	N/A	N/A
bisphenol A	3250	3600	N/A	N/A	N/A
phenol	100	669	N/A	N/A	0.9

SECTION 12: Ecological information**Toxicity**

SECTION 12: Ecological information

Product/ingredient name	Result	Species
4-nonylphenol, branched	Acute - LC50 0.221 mg/l [96 hours] Acute - EC50 OECD 0.044 mg/l [48 hours] Intoxication	Fish Crustaceans - Water flea - <i>Moina macrocopa</i>
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	Acute - EC50 OECD 0.04 mg/l [72 hours] Population EC50 15 mg/l [72 hours]	Algae - Green algae - <i>Raphidocelis subcapitata</i> Algae
1,3-Benzenedimethanamine, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	LC50 OECD [Fish, Acute Toxicity Test] 8.72 mg/l [96 hours] EC50 OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test] 3.54 mg/l [48 hours] EC50 OECD [Alga, Growth Inhibition Test] 1.83 mg/l [72 hours]	Fish Daphnia Algae
2,2'-iminodiethylamine	Acute - LC50 430 mg/l [96 hours]	Fish
Formaldehyde, polymer with benzenamine, hydrogenated	Acute - LC50 63 mg/l [96 hours] Acute - EC50 15.4 mg/l [48 hours] Acute - EC50 43.94 mg/l [72 hours]	Fish Daphnia Algae
bisphenol A	Acute - LC50 - Fresh water 4.6 mg/l [96 hours] Acute - LC50 - Fresh water 0.885 mg/l [48 hours] Chronic - NOEC - Fresh water 0.000174 mg/l [5 months] Acute - EC50 OECD 1.32 mg/l [72 hours] Population Chronic - EC10 OECD 1189 µg/l [72 hours] Population	Fish Crustaceans Fish Algae - Green algae - <i>Raphidocelis subcapitata</i> Algae - Green algae - <i>Raphidocelis subcapitata</i>
phenol	Chronic - IC10 - Fresh water OECD Age: 24 hours 2.38 mg/l [21 days] Reproduction	Daphnia - Water flea - <i>Daphnia magna</i> - Neonate

[Persistence and degradability](#)

SECTION 12: Ecological information

Product/ingredient name	Result
2,2'-iminodiethylamine Formaldehyde, polymer with benzenamine, hydrogenated	87% [21 days] - Readily 0% [28 days] - Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
m-phenylenebis (methylamine)	0.18	2.69	Low
4-nonylphenol, branched	5.4	251.19 [ASTM E 1022-84]	Low
1,3-Benzenedimethanamine, polymer with 2,2'-(1-methylethylidene)bis (4,1-phenyleneoxymethylene) bis[oxirane]	2.3	-	Low
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.99	-	Low
2,2'-iminodiethylamine	-5.58	4.47 [OECD 305 C]	Low
4,4'-methylenebis (cyclohexylamine)	2.03	-	Low
Formaldehyde, polymer with benzenamine, hydrogenated	2.68	209 to 219 [OECD 305 C]	Low
bisphenol A	3.4	43.65	Low
phenol	1.47	17.38 [OECD 305 E]	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

SECTION 14: Transport information

	Mexico Classification	IMDG	IATA
UN number	UN2922	UN2922	UN2922
UN proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (m-phenylenebis(methylamine), Formaldehyde, polymer with benzenamine, hydrogenated)	CORROSIVE LIQUID, TOXIC, N.O.S. (m-phenylenebis(methylamine), Formaldehyde, polymer with benzenamine, hydrogenated)	CORROSIVE LIQUID, TOXIC, N.O.S. (m-phenylenebis(methylamine), Formaldehyde, polymer with benzenamine, hydrogenated)
Transport hazard class(es)	8 (6.1)	8 (6.1)	8 (6.1)
Packing group	II	II	II
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	(4-nonylphenol, branched)	Not applicable.

Additional information

Mexico : None identified.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not applicable.

SECTION 15: Regulatory information**International regulations****Montreal Protocol**

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

SECTION 16: Other information

Please refer to Section 2 of this document for GHS hazard classifications.
The customer is responsible for determining the PPE code for this material.

Date of previous issue : No previous validation

Organization that prepared the SDS : EHS

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

▣ Indicates information that has changed from previously issued version.

Notice to reader

The information, which is based on the current knowledge of the chemical substance or mixture and applies to appropriate safety precautions for the product, is deemed correct but is not exhaustive and will be used only as a guide.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.