

# SAFETY DATA SHEET

## STEAMATE NA2380

### 1. Chemical product and company identification

**Product name** STEAMATE NA2380  
**Recommended use and Limitations on use**  
**Recommended use** Neutralising corrosion inhibitor

#### Company/undertaking identification

PT. GE Operations Indonesia  
 BRI II Tower, 27th floor, Jl. Jend. Sudirman Kav. 44-46  
 10210  
 Jakarta  
 Indonesia  
 Tel: 62-21-5730485  
 Fax: 62-21-57932226

#### Emergency telephone

001-803-017-9114 (Indonesia)  
 +1 703-527-3887 (US)

### 2. Hazards identification

#### GHS classification

<b>Physical hazards</b>	Flammable liquids	Category 3
<b>Health hazards</b>	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 3
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Skin sensitizer	Category 1
	Germ cell mutagenicity	Category 2
	Specific target organ toxicity, single exposure	Category 2
<b>Environmental hazards</b>	Specific target organ toxicity, repeated exposure	Category 2
	Hazardous to the aquatic environment, acute hazard	Category 3 (20% of the mixture consists of component(s) of unknown hazards to the aquatic environment.)
	Hazardous to the aquatic environment, long-term hazard	Category 3 (20% of the mixture consists of component(s) of unknown hazards to the aquatic environment.)

#### Label elements



**Pictogram**  
**Signal word**

Danger



# SAFETY DATA SHEET

## STEAMATE NA2380

<b>Hazard statement</b>	Flammable liquid and vapor. Toxic if swallowed. Toxic in contact with skin. Harmful in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing genetic defects. May cause damage to organs. Harmful to aquatic life. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.
<b>Precautionary statement</b>	
<b>Prevention</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe the mist or vapor. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Take precautionary measures against static discharges. Avoid breathing dust/fume/gas/mist/vapours/spray.
<b>Response</b>	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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/physician. Do NOT induce vomiting. If skin irritation or rash occurs: Get medical advice/attention. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see this label). Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. In case of fire: Use appropriate media for extinction. IF SWALLOWED:
<b>Storage</b>	Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Store in accordance with local/regional/national/international regulations.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

### 3. Composition / information on ingredients

Substance or mixture                      Mixtures

#### Chemical property

Chemical Property	CAS #	Concentration (%)
Cyclohexylamine	108-91-8	>= 60
Morpholine	110-91-8	10 - 30

### 4. First aid measures

#### First aid measures for different exposure routes

<b>Inhalation</b>	Remove victim to fresh air and allow to rest. Give oxygen if necessary. In case of loss of consciousness, give artificial respiration. Seek medical attention.
<b>Skin contact</b>	URGENT! Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse.
<b>Eye contact</b>	URGENT! Immediately flush eyes with plenty of low-pressure water for at least 20 minutes while removing contact lenses. Hold eyelids apart. Get immediate medical attention.
<b>Ingestion</b>	Do not feed anything by mouth to an unconscious or convulsive victim. Do NOT induce vomiting! Seek medical attention. If the victim is fully conscious dilute contents of stomach using 3-4 glasses of water.

#### Most important symptoms and effects

Corrosive effects.  
May cause abdominal pain, nausea, vomiting, dizziness, lethargy and blurring of vision.



# SAFETY DATA SHEET

## STEAMATE NA2380

**Personal protection for first-aid responders** Not available.

**Notes to physician** Material is corrosive.

### 5. Fire-fighting measures

**Extinguishing media** Carbon dioxide, dry chemicals, foam, water spray (fog).

**Extinguishing media to avoid** None.

**Specific hazards** Oxides of carbon and nitrogen evolved in fire. Elemental oxides.

**Protection of fire-fighters** Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

### 6. Accidental release measures

**Personal precautions** Wear protective clothing, gloves and safety goggles.

**Environmental precautions** Prevent from entering sewers or the immediate environment.  
Accidental release of large quantities into the aquatic environment may harm aquatic organisms.

**Spill clean-up methods** Remove sources of ignition.  
Absorb onto inert material and dispose of according to Hazardous Waste Regulations.  
Remove small spills with plenty of water.

### 7. Handling and storage

**Handling** Flammable.  
Do not use around sparks or flames.  
Earth containers during filling or discharge when performed at temperatures at or above the product flash point.

**Storage** Store in cool, well ventilated area.  
Store away from oxidizers.  
Store containers closed when not in use.

### 8. Exposure controls/personal protection

#### Exposure limits

Indonesia. OELs (Minister of Manpower and Transmigration Regulation No. Per.13/MEN/X/2011 concerning Threshold Limit Values, Annex II)

Components	Type	Value
Cyclohexylamine (CAS 108-91-8)	TWA	41 mg/m <sup>3</sup>
		10 ppm
Morpholine (CAS 110-91-8)	TWA	20 ppm

**Engineering measures** Adequate ventilation to maintain air contaminants below exposure limits.  
Arrange for eye wash possibility.

#### Personal protective equipment

**Respiratory protection** In case of insufficient ventilation, use a breathing mask with filter type: A2-P2  
If ventilation is inadequate or significant exposure is likely, use a respirator with organic vapour cartridges (type A).

**Hand protection** Gauntlet type neoprene gloves (Protection against unintentional short-term contact)  
Wash off after each use. Replace as necessary.

**Eye protection** Splash proof chemical goggles.  
Face shield.

**Skin and body protection** Chemical resistant apron.

**Hygiene measures** Wash hands after handling.

### 9. Physical and chemical properties

#### Appearance

**Physical state** Liquid.



# SAFETY DATA SHEET

## STEAMATE NA2380

Color	Colorless to amber
Odor	Amine
Odor threshold	Not available.
pH (concentrated product)	12.2
Melting point/freezing point	-18 °C
Boiling point, initial boiling point, and boiling range	104 °C
Flash point	52 °C SETA(CC)
Auto-ignition temperature	Not available.
Flammability (solid, gas)	Not available.
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	21 °C
Vapor density	> 1 (Air = 1)
Evaporation rate	< 1 (Ether = 1)
Relative density	0.94
Relative density temperature	21 °C
Solubility	100 %
Partition coefficient (n-octanol/water)	Not available.
Decomposition temperature	Not available.
Viscosity	10 cps
Viscosity temperature	21 °C
Pour point	-15 °C
Percent volatile	80 (Estimated)

### 10. Stability and reactivity

Stability	Stable under normal storage conditions.
Conditions to avoid	Keep away from all sources of ignition.
Reactivity/Incompatible materials	Avoid contact with strong acids and oxidisers.
Hazardous decomposition products	Oxides of carbon and nitrogen evolved in fire. Elemental oxides
Possibility of hazardous reactions	Not applicable.

### 11. Toxicological information

Acute toxicity	Harmful in contact with skin. Harmful if swallowed.
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#### Toxicological data

Product	Species	Test Results
STEAMATE NA2380 (CAS Mixture)		
Acute Dermal LD50	Rabbit	385 mg/kg, (Estimated value)



# SAFETY DATA SHEET

## STEAMATE NA2380

Product	Species	Test Results
<i>Oral</i> LD50	Rat	240 mg/kg, (Estimated value)
Components	Species	Test Results
Cyclohexylamine (CAS 108-91-8)		
<b>Acute</b>		
<i>Dermal</i> LD50	Rabbit	277 mg/kg
<i>Inhalation</i> LC50	Rat	> 0.9 mg/L, 4 Hour
<i>Oral</i> LD50	Rat	156 mg/kg
Morpholine (CAS 110-91-8)		
<b>Acute</b>		
<i>Dermal</i> LD50	Rabbit	504 mg/kg
<i>Inhalation</i> LC50	Rat	8 mg/l, 4 Hour
<i>Oral</i> LD50	Rat	1050 mg/kg
<b>Skin corrosion/irritation</b>	Not classified. May cause burns.	
<b>Serious eye damage/eye irritation</b>	Causes burns. Corrosive to eyes.	
<b>Respiratory sensitizer</b>	Not classified.	
<b>Skin sensitizer</b>	Causes burns. Absorbed by skin. Toxic in contact with skin. Corrosive to skin. May cause sensitisation.	
<b>Germ cell mutagenicity</b>	Category 1B Not classified. Suspected of causing genetic defects.	
<b>Carcinogenicity</b>	Not classified.	
<b>Toxic to reproduction</b>	Not available.	
<b>Specific target organ toxicity - single exposure</b>	Not classified. Kidneys. Liver.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified. Prolonged or repeated exposures may cause toxicity to the liver and/or kidney.	
<b>Aspiration hazard</b>	Not available.	
<b>Chronic effects</b>	Prolonged exposure may cause CNS depression.  Prolonged or repeated exposure may cause primary irritant dermatitis and or skin sensitisation.	

## 12. Ecological information

### Ecotoxicological data

Product	Species	Test Results
STEAMATE NA2380 (CAS Mixture)		
LC50	Fathead Minnow	94 mg/L, Acute Toxicity, 96 hour, (Estimated)
NOEL	Fathead Minnow	52 mg/L, Acute Toxicity, 96 hour, (Estimated)
Crustacea	0% Mortality	Daphnia magna
	100% Mortality	Daphnia magna
		8 mg/L, Static Acute Bioassay, 48 hour
		145 mg/L, Static Acute Bioassay, 48 hour



# SAFETY DATA SHEET

## STEAMATE NA2380

Product	Species	Test Results
Other	0% Mortality	Rainbow Trout 274.6 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
	100% Mortality	Rainbow Trout 340 mg/L, Static Acute Bioassay, 96 hour, (pH adjusted)
<b>Bioaccumulation</b>	Not available.	
<b>Mobility in soil</b>	Not available.	
<b>Other hazardous effects</b>	Not available.	
<b>Persistence and degradability</b>		
- COD (mgO2/g)	2182 (calculated data)	
- BOD 5 (mgO2/g)	2 (calculated data)	
- BOD 28 (mgO2/g)	210 (calculated data)	
- Closed Bottle Test (% Degradation in 28 days)	14 (calculated data)	
- Zahn-Wellens Test (% Degradation in 28 days)	86 (calculated data)	
- TOC (mg C/g)	503 (calculated data)	

### 13. Disposal considerations

<b>Contaminated packaging</b>	According to Hazardous Waste Regulations.  Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations.
<b>Local disposal regulations</b>	According to Hazardous Waste Regulations.  Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations.

### 14. Transport information

<b>IATA</b>	
UN number	UN2734
Proper shipping name	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. (CYCLOHEXYLAMINE SOLUTION)
Hazard class	8
Subsidiary hazard class	3
Packing group	II
<b>IMDG</b>	
UN number	UN2734
Proper shipping name	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. (CYCLOHEXYLAMINE SOLUTION)
Hazard class	8
Subsidiary hazard class	3
Packing group	II



# SAFETY DATA SHEET

## STEAMATE NA2380

IATA; IMDG



### 15. Regulatory information

#### Applicable regulations

**CWC (Law of RI No. 9 of 2008 re: Prohibition on the Use of Chemicals as Chemical Weapon)**

Not regulated.

**Dangerous Substances that Must be Registered (Regulation of the Minister of Health of the Republic of Indonesia)**

Not regulated.

**Import Control of Dangerous Substances (Decree of the Ministry of Industry and Trade No. 254/MPP/KEP/7/2000, Attachment I)**

Not regulated.

**Precursor Chemicals (Ministry of Industry and Trade Decree No. 647/MPP/Kep/10/2004 concerning Regulation on Import of Precursors, Attachment 1)**

Not regulated.

**Prohibited Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 1)**

Not regulated.

**Restricted Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 2)**

Not regulated.

**Toxic and Hazardous Materials List (Decree of the Ministry of Industry on the Safeguarding of Toxic and Hazardous Materials in Industrial Plants, No. 148/M/SK/4/1985)**

Not regulated.

**Hazardous Substances** Toxic chemical  
**Approved for Use**  
(Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment I)

**Listed substances**

Not regulated.

**Listed substances / Allowed until 2040**

Not regulated.

### 16. Other information

#### References

Safety data sheets of raw materials.

#### Disclaimer

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