

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

**1.1. Product identifier**

Product form : Mixtures  
Trade name : RADIATOR CLEANER 8 FL. OZ.  
Product code : X401

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

Use of the substance/mixture : FOLLOW LABEL DIRECTIONS

**1.3. Details of the supplier of the safety data sheet**

Petra Automotive Products, Inc.  
11085 Regency Green Dr.  
Cypress, TX 77429  
T 713-856-5700

**1.4. Emergency telephone number**

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification (GHS-US)**

Skin Irrit. 2 H315  
Eye Irrit. 2A H319

**2.2. Label elements**

**GHS-US labeling**

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H315 - Causes skin irritation  
H319 - Causes serious eye irritation

Precautionary statements (GHS-US) : P264 - Wash ... thoroughly after handling  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 - Specific treatment (see ... on this label)  
P332+P313 - If skin irritation occurs: Get medical advice/attention  
P337+P313 - If eye irritation persists: Get medical advice/attention  
P362 - Take off contaminated clothing

**2.3. Other hazards**

No additional information available

**2.4. Unknown acute toxicity (GHS US)**

No data available

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

Not applicable

**3.2. Mixtures**

Name	Product identifier	%	Classification (GHS-US)
AQUA	(CAS No) 7732-18-5	1.5523 - 2.1351	Not classified
sodium dihydrogen orthophosphate, monohydrate	(CAS No) 10049-21-5	1 - 5	Not classified
sodium-2(3H)-benzothiazolethione, conc=50%, aqueous solution	(CAS No) 2492-26-4	0.98 - 1.02	Skin Corr. 1A, H314
sodium nitrate	(CAS No) 7631-99-4	< 1	Ox. Sol. 3, H272 Acute Tox. 4 (Oral), H302

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Name	Product identifier	%	Classification (GHS-US)
sodium hydroxide, conc=50%, aqueous solution	(CAS No) 1310-73-2	0.0649 - 0.6077	Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401
disodium metasilicate, pentahydrate	(CAS No) 10213-79-3	< 1	Skin Corr. 1C, H314 STOT SE 3, H335
disodium tetraborate, decahydrate	(CAS No) 1303-96-4	< 1	Not classified
PLURONIC L-61 SURFACTANT	(CAS No) 9003-11-6	< 1	Not classified
sodium chloride	(CAS No) 7647-14-5	0 - 0.059	Not classified

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.
- First-aid measures after skin contact : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see ... on this label).
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after skin contact : Causes skin irritation.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Unsuitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.  
: Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.  
Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
- Hygiene measures : Wash ... thoroughly after handling.

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### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.
Incompatible products	: Strong bases. strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight.

### 7.3. Specific end use(s)

Follow Label Directions.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### sodium hydroxide, conc=50%, aqueous solution (1310-73-2)

USA ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
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#### disodium tetraborate, decahydrate (1303-96-4)

USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup>

### 8.2. Exposure controls

Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Wear protective gloves.
Eye protection	: Chemical goggles or safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Wear approved mask.
Other information	: When using, do not eat, drink or smoke.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colourless to light yellow. Colorless.
Odor	: characteristic.
Odor threshold	: No data available
pH	: 10.8 - 11.2
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 100 °C
	: No data available
Self ignition temperature	: No data available
	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 1.036
Solubility	: Soluble in water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

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### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

strong acids. Strong bases.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>sodium chloride (7647-14-5)</b>	
LD50 oral rat	3000 mg/kg (3550 mg/kg bodyweight; Rat; Rat; Experimental value; Experimental value,3550 mg/kg bodyweight; Rat; Rat; Experimental value; Experimental value)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit; Experimental value,Rabbit; Experimental value)

<b>sodium-2(3H)-benzothiazolethione,conc=50%,aqueous solution (2492-26-4)</b>	
LD50 oral rat	> 2000 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)

<b>sodium nitrate (7631-99-4)</b>	
LD50 oral rat	1270 mg/kg (Rat)

<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
LD50 oral rat	2660 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)

<b>sodium dihydrogen orthophosphate, monohydrate (10049-21-5)</b>	
LD50 oral rat	8290 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)

Skin corrosion/irritation	: Causes skin irritation. pH: 10.8 - 11.2
Serious eye damage/irritation	: Causes serious eye irritation. pH: 10.8 - 11.2
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classifiedBased on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classifiedBased on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classifiedBased on available data, the classification criteria are not met
Aspiration hazard	: Not classifiedBased on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after skin contact	: Causes skin irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>sodium hydroxide, conc=50%, aqueous solution (1310-73-2)</b>	
LC50 fish 1	45.4 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
LC50 other aquatic organisms 1	100 mg/l (48 h; Daphnia magna; PURE SUBSTANCE)
LC50 fish 2	189 mg/l (48 h; Leuciscus idus)
TLM fish 1	125 ppm (96 h; Gambusia affinis; PURE SUBSTANCE)
TLM fish 2	99 mg/l (48 h; Lepomis macrochirus; PURE SUBSTANCE)
Threshold limit other aquatic organisms 1	100 mg/l (48 h; Daphnia magna; PURE SUBSTANCE)

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<b>sodium chloride (7647-14-5)</b>	
LC50 fish 1	11 100 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	1000 mg/l (48 h; Daphnia magna)
LC50 fish 2	5840 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 2	340.7 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	4967 mg/l (72 h; Algae; INHIBITORY)

<b>sodium-2(3H)-benzothiazolethione, conc=50%, aqueous solution (2492-26-4)</b>	
LC50 fish 1	3.8 mg/l (96 h; Lepomis macrochirus; PURE SUBSTANCE)
EC50 Daphnia 1	19 mg/l (48 h; Daphnia magna; PURE SUBSTANCE)
LC50 fish 2	1.8 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); PURE SUBSTANCE)

<b>disodium metasilicate, pentahydrate (10213-79-3)</b>	
LC50 fish 1	210 mg/l (96 h; Brachydanio rerio; ANHYDROUS FORM)
EC50 Daphnia 1	216 mg/l (96 h; Daphnia magna; ANHYDROUS FORM)
LC50 fish 2	2320 mg/l (96 h; Gambusia affinis; ANHYDROUS FORM)
EC50 Daphnia 2	632 mg/l (96 h; Lymnaea sp.; ANHYDROUS FORM)

<b>sodium nitrate (7631-99-4)</b>	
LC50 fish 1	12000 mg/l (96 h; Lepomis macrochirus)
LC50 other aquatic organisms 1	> 3000 mg/l (24 h; Daphnia magna)
LC50 fish 2	4650 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
LC50 other aquatic organisms 2	665 mg/l (96 h; Daphnia magna)
TLM fish 1	6650 ppm (96 h; Gambusia affinis; TURBULENT WATER)
TLM fish 2	10000 ppm (96 h; Lepomis macrochirus)
Threshold limit other aquatic organisms 1	> 3000 mg/l (24 h; Daphnia magna)
Threshold limit other aquatic organisms 2	665 mg/l (96 h; Daphnia magna)

<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
LC50 fish 1	100 - 1000 mg/l (96 h; Pisces)
LC50 other aquatic organisms 1	100 - 1000 mg/l (96 h)
EC50 Daphnia 1	141 mg/l (48 h; Daphnia magna)
LC50 fish 2	1900 mg/l (Pimephales promelas)
Threshold limit other aquatic organisms 1	100 - 1000,96 h; Protozoa; ANHYDROUS FORM
Threshold limit other aquatic organisms 2	1 mg/l (72 h; Rana sp.)
Threshold limit algae 1	158 mg/l (96 h; Scenedesmus subspicatus; ANHYDROUS FORM)

<b>sodium dihydrogen orthophosphate, monohydrate (10049-21-5)</b>	
LC50 fish 1	> 2400 mg/l (48 h; Leuciscus idus; ANHYDROUS FORM)
TLM other aquatic organisms 1	126 ppm (72 h; Daphnia magna; ANHYDROUS FORM)

<b>12.2. Persistence and degradability</b>	
<b>RADIATOR CLEANER 8 FL. OZ.</b>	
Persistence and degradability	Not established.
<b>AQUA (7732-18-5)</b>	
Persistence and degradability	Not established.
<b>PLURONIC L-61 SURFACTANT (9003-11-6)</b>	
Persistence and degradability	Biodegradability in water: no data available.
<b>sodium hydroxide, conc=50%, aqueous solution (1310-73-2)</b>	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components of the mixture available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
<b>sodium chloride (7647-14-5)</b>	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

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<b>sodium-2(3H)-benzothiazolethione,conc=50%,aqueous solution (2492-26-4)</b>	
Persistence and degradability	No (test)data on mobility of the components of the mixture available.
<b>disodium metasilicate, pentahydrate (10213-79-3)</b>	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
<b>sodium nitrate (7631-99-4)</b>	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
<b>sodium dihydrogen orthophosphate, monohydrate (10049-21-5)</b>	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
<b>12.3. Bioaccumulative potential</b>	
<b>RADIATOR CLEANER 8 FL. OZ.</b>	
Bioaccumulative potential	Not established.
<b>AQUA (7732-18-5)</b>	
Bioaccumulative potential	Not established.
<b>PLURONIC L-61 SURFACTANT (9003-11-6)</b>	
Bioaccumulative potential	No bioaccumulation data available.
<b>sodium hydroxide, conc=50%, aqueous solution (1310-73-2)</b>	
Log Pow	-3.88 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable.
<b>sodium chloride (7647-14-5)</b>	
Log Pow	-3.0 (Calculated)
Bioaccumulative potential	Bioaccumulation: not applicable.
<b>sodium-2(3H)-benzothiazolethione,conc=50%,aqueous solution (2492-26-4)</b>	
Log Pow	-0.46
Bioaccumulative potential	Bioaccumulation: not applicable.
<b>disodium metasilicate, pentahydrate (10213-79-3)</b>	
Bioaccumulative potential	No bioaccumulation data available.
<b>sodium nitrate (7631-99-4)</b>	
Log Pow	-3.8
Bioaccumulative potential	Bioaccumulation: not applicable.
<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
Bioaccumulative potential	Not bioaccumulative.
<b>sodium dihydrogen orthophosphate, monohydrate (10049-21-5)</b>	
Bioaccumulative potential	No bioaccumulation data available.

### 12.4. Mobility in soil

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<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADR / RID / ADN / IMDG / ICAO / IATA

US DOT (ground): NOT REGULATED,

ICAO/IATA (air): NOT REGULATED,

IMO/IMDG (water): NOT REGULATED,

### 14.2. UN proper shipping name

DOT Proper Shipping Name : NOT REGULATED

### 14.3. Additional information

Other information : No supplementary information available.

#### Overland transport

No additional information available

#### Transport by sea

No additional information available

#### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<b>RADIATOR CLEANER 8 FL. OZ.</b>	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard
<b>sodium hydroxide, conc=50%, aqueous solution (1310-73-2)</b>	
Listed on SARA Section 302 (Specific toxic chemical listings)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
<b>sodium-2(3H)-benzothiazolethione, conc=50%, aqueous solution (2492-26-4)</b>	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

### 15.2. International regulations

#### CANADA

<b>sodium hydroxide, conc=50%, aqueous solution (1310-73-2)</b>	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Class E - Corrosive Material
<b>sodium nitrate (7631-99-4)</b>	
WHMIS Classification	Class C - Oxidizing Material Class D Division 2 Subdivision B - Toxic material causing other toxic effects
<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

#### EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

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

Not classified

### 15.2.2. National regulations

No additional information available

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

Indication of changes : Revision - See : \*

Other information : None.

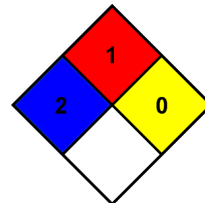
Full text of H-phrases: see section 16:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Ox. Sol. 3	Oxidizing solids Category 3
Skin Corr. 1A	skin corrosion/irritation Category 1A
Skin Corr. 1C	skin corrosion/irritation Category 1C
Skin Irrit. 2	skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 1 Slight Hazard

Physical : 1 Slight Hazard

SDS US (GHS HazCom 2012) - Technical Chemical

*The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product*