

TRAC Descaler Concentrate es el producto ideal para la limpieza de circuitos refrigerados por agua dulce o glicol. Limpia cualquier tipo de circuito de agua dulce de forma rápida y ecológica, sin dañar sus componentes ya sean de plástico, metal o pintura.

¿Por qué utilizar TRAC Descaler Concentrate?

Los depósitos de cal y limos en circuitos cerrados reducen drásticamente la transferencia de calor, la mayoría de los productos en el mercado contienen ácido clorhídrico, que puede dañar fácilmente el circuito. TRAC Descaler es 100% biodegradable, seguro para los equipos y las personas y no es tóxico.

¿Cuánto necesito?

Asegúrese de que el sistema está en buen estado y sin puntos de corrosión (a veces hay fugas tapadas por la suciedad que aparecen al limpiar el circuito).

Determine el volumen del circuito (consulte el manual de motor) y multiplíquelo por los siguientes porcentajes de la tabla:

Acumulación	Descripción	% Producto
Poca suciedad	Los depósitos tienen color claro	2,50%
Mucha suciedad	Color de óxido en todo el circuito	5%



Cada cuánto tiempo hay que usarlo?

- Como norma general es recomendable hacerlo al menos cada tres años.
- Siempre que el motor se calienta y el agua del circuito de agua salada salga limpia.
- Si detecta cambios en el color, olor o flujo del refrigerante.

TRAC Descaler® utiliza una dilución modificada de ácido fosfórico que además de ser biodegradable y sin toxicidad, limpia circuitos de forma rápida y efectiva para restaurar la eficacia original del circuito. Aunque existen métodos mecánicos para limpiar los circuitos, con TRAC Descaler® se reducirá el tiempo de limpieza considerablemente sin dañar juntas, válvulas, grifos, etc.

Aplicaciones:

Sistemas de refrigeración por agua dulce - Torres de destilación - Intercambiadores de calor
Condensadores - Bombas - Calderas - Compresores - Radiadores - Enfriadores

Beneficios:

Mejores resultados que con la limpieza mecánica ,con un 25% menos del coste

Rapidez de uso. La mayor parte de las aplicaciones necesitan menos de 5 horas.

Medio ambiente:

Como todos los productos de TRAC ONLINE, TRAC Descaler® es 100% biodegradable, seguro y no tóxico. No daña la mayoría de los materiales, incluidos plásticos, metales, goma, fibra de vidrio, vinilo, madera o pintura.

TRAC Descaler® cumple con la "California Fish Toxicity Assay Test", Department of Hazardous Substances (Title 22) y con el estándar internacional NSF 60.

1. **Vacíe completamente el circuito**, especialmente las zonas bajas y ambos lados del termostato.
2. **Llene el circuito de agua dulce** y arranque el motor durante 15 minutos asegurándose de que el termostato se abre y vacíelo completamente, repetir hasta que sólo salga agua limpia del circuito.
3. **Llene el circuito** con una solución de agua y TRAC Descaler en los porcentajes recomendados.
4. **Arranque el motor** durante 4 horas asegurándose de que se abre el termostato.
5. **Vacíe el circuito.**
6. **Llene el circuito de agua dulce** y arranque el motor durante 15 minutos asegurándose de que se abre el termostato. Repetir hasta que sólo salga agua limpia.
7. **En un cubo aparte, mezcle 30 gramos de carbonato sódico** (del que se usa en las piscinas) por cada litro de agua, llene el circuito con la solución y arranque el motor durante 15 minutos asegurándose de que se abre el termostato, esto neutralizará cualquier resto de TRAC Descaler. (Esto hay que hacerlo con cualquier descalcificador que se use. CUALQUIER ácido que se use reaccionará con el anticongelante provocando su descomposición)
8. **Llene el circuito con su producto refrigerante** y ¡Listo! .

Determine el volumen del circuito y siga la siguiente tabla:

Retire el termostato y recolóque el codo y la junta

Termostato
Codo entrada
Termostato
Junta
Carcasa

1. Para asegurar el flujo, retire el termostato durante el procedimiento.
2. Elimine el anticongelante del motor y haga circular agua dulce para asegurarse de que ha sido retirado.
3. Llene el circuito con la solución pre-mezclada (consulte la proporción adecuada).
4. Encienda el motor 4 horas. Arranque el motor para hacer circular el producto por el sistema durante 4 horas.
5. Vacíe la solución y circule agua dulce hasta eliminar por completo el TRAC Descaler.
6. Cierre la válvula de drenaje, coloque el termostato y rellene el circuito con el anticongelante.

Descaler is formulated to remove residues caused by fresh water, such as scale, silicate, calcium, sludge and mineral deposits.

TRAC's **Descaler**[®] is a safe biodegradable scale remover designed to dissolve fresh water scale which forms a rock-like build inside water cooled equipment.

Scale deposits in your equipment's cooling system dramatically reduces heat transfer rate. As little as 1/64" of scale build up will reduce system efficiency as much as 15%. Eventually this will result in system overheat.

Used at room temperature, **Descaler**[®] can safely be recirculated throughout your equipment. This mild solution penetrates hard to reach areas and removes years of scale built-up, restoring your system to its original condition.



Types of Applications

Descaler[®] can safely be used to remove scale from:

- Engine fresh water cooling systems
- Boilers
- Cooling towers
- Condensers
- Chillers
- Heat exchangers
- Distillation towers
- Compressors
- Pumps
- Radiators
- Evaporators
- Parts

SAFETY

- **Descaler**[®] is safe for the users, equipment and environment.
- **Descaler**[®] will not harm most materials including, plastic, metal, rubber, fiberglass, vinyl, wood, or paint.
- Care should be given when **Descaler**[®] is used with metals such as zinc anodes, tin, or galvanized materials.
- **Descaler**[®] is biodegradable & can be disposed through regular sewer system
- **Descaler**[®] passed the California Fish Toxicity Test, Department of Hazardous Substances (Title 22) & complies with NSF International standard 60.
- Based on current EPA guidelines, **Descaler**[®] is classified as non-flammable and meets all requirements regarding hazardous and dangerous materials.

***Descaler*[®] is sold in concentrated form or a ready-to-use format. One gallon of Descaler Concentrate[®] will make 5 to 10 gallons of ready-to-use solution.**

Availability

1 gallon , 5 gallon pail, 55 gallon drum
 or a 250 gallon tote tank

Pipe gallonage chart

Diameter	Length in feet			
Inches	1	5	10	20
1	0.04	0.2	0.4	0.8
2	0.16	0.8	1.6	3.2
3	0.37	1.84	4	8
4	0.65	3.26	7	13
5	1.02	5	10	20
6	1.47	7	15	29
7	2	10	20	40
8	2.61	13	26	52
9	3.31	16	33	66
10	4	20	41	82
12	6	29	59	118
14	8	40	80	160
16	10	52	104	208

FAST SAFE NON-TOXIC BIODEGRADABLE NON CORROSIVE NON HAZARDOUS

Chiller plant chill loop cleaning instructions.

What product do I use?

- For **ALL** fresh water or glycol loop applications, **Trac Descaler Concentrate™** is the only choice for safe, fast, and consistent results.

Why should I use Trac's Descaler Concentrate™ ?

- Scale deposits in closed water cooled system can dramatically reduce heat transfer. As little as 1/64" of scale build-up can reduce system efficiency by as much as 15%. Although there are many descalers on the market today, most are Hydrochloric acid based and can easily damage the equipment. Only **Trac's Descaler Concentrate™** can safely remove scale, rust and lime build-ups from deep within the system, **Trac's Descaler Concentrate™** is 100% biodegradable, safe to both user and equipment, and is completely non-toxic.



How much Trac Descaler Concentrate™ do I need?

- First, make sure that the system is in good condition and that no corrosion or weak point can be found throughout the system.
- Next, determine that volume of the system and use 2.5% as a multiplier to determine the amount for Trac Descaler Concentrate needed.

Cleaning Instructions:

- Turn off the systems make up water and set 3way valves to the open position on all the air handlers.
- Locate an injection point on the chilled loop and if glycol is in use, evacuate **all the glycol** making sure to fresh water flush until all traces of said glycol is remove. It is recommended to use a refractometer to make sure all the glycol is removed.
- Use a pump to **SLOWLY** add the predetermined amount of **Trac's Descaler Concentrate** into the system, making sure to monitor system pressure and bleeding excess water as you are injecting the solution.
- Bleed each air handler and check pH making sure it's not below 1.5 and let the system circulate for 8 up to 12hours bleeding each air handler regularly
- After circulation, time is completed turn make up water back on and fresh water flush the system thoroughly.
- If glycol is to be added, make sure that all traces of the Trac's Descaler Concentrate are gone from the system by checking the pH at each air handler

Warning

- When descaling a closed water cooling system, it is sometimes hard to determine the amount of scale that has accumulated over the years. In some cases the scale build up might be such that the scale might be hiding pin holes in the piping and can cause leaks during the descaling process. It is therefore important to determine the system integrity prior to starting the application.

Engine coolant system cleaning instructions.

Why should I use Trac's Descaler Concentrate™ ?

- Scale deposits in an engine's coolant system can dramatically reduce heat transfer. As little as 1/64" of scale build-up can reduce system efficiency by as much as 15%. Although there are many descalers on the market today, most are Hydrochloric acid based and can easily damage a engine. Only **Trac's Descaler Concentrate™** can safely remove scale, rust and lime build-ups from deep within the system, **Trac's Descaler Concentrate™** is 100% biodegradable, safe to both user and equipment, and is completely non-toxic.

How much Trac's Descaler™ do I need?

- To determine how much **Trac's Descaler Concentrate™** you need, simply multiply the appropriate percentage (from the table below) by the coolant capacity (available through your engine manufacturer).

Build Up	Description	%
Light Scale	Deposits are light in color.	2.5%
Heavy Scale	Rust color throughout the system.	5%



When to use Trac's Descaler Concentrate™ ?

- As a general rule of thumb, flushing your water system once every three years is considered to be good preventative maintenance. This is even more important when the condition of the coolant is not monitored on a regular base.
- When the engine is overheating and the raw water side has been found to be clean
- If you notice a change in the coolants color, smell, or flow, chances are scale build up is to blame. Left untreated, overtime the engine will overheat.

Cleaning Instructions:

- Completely drain the coolant from engine; making certain to drain all low lying areas and both sides of thermostat.
- Fill engine with fresh water and run for 15 minutes making certain the thermostat opens, then drain completely. Repeat until only clean water drains from the engine.
- Fill the system with a premixed solution of water and **Trac's Descaler Concentrate** using the concentration chart above.
- Run engine or provide some means of recirculation for 4 hours making certain thermostat opens.
- Drain solution
- Fill engine with fresh water and run for 15 minutes making certain thermostat opens, then drain completely. Repeat until only clean water drains from the engine.
- In a separate bucket, mix 1/4 Lbs. of soda ash for every gallon of water. Fill engine with solution and run for 15 minutes making certain thermostat opens, then drain completely. This will neutralize any remaining descaler in the system. *(this step is required by ALL descalers and although important, it is often overlooked. ANY acid, mild or harsh, left in a system will react with the engines coolant and will result in the breakdown of the coolant.)*
- Fill the system with the recommended coolant. Done!

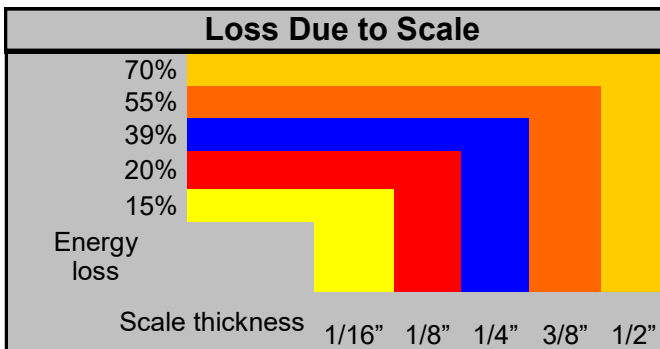
WHY SHOULD I USE TRAC'S DESCALER CONCENTRATE™ ?

- Scale deposits in steam boilers can dramatically reduce heat transfer. The thermal loss from deposits as small as 1/32" can increase fuel consumption by 8.5%. Although there are many descalers on the market today, most are Hydrochloric Acid based and can easily attack the tubes during cleaning. Only **TRAC's Descaler Concentrate™** can safely remove scale, rust and lime build-up from deep within the boiler. **TRAC's Descaler Concentrate™** is 100% biodegradable, non-toxic, safe to both user and the boiler.

HOW MUCH TRAC'S DESCALER™ DO I NEED?

- To determine how much **Trac's Descaler Concentrate™** is needed, multiply the appropriate percentage (from the table below) by the system's water capacity.

Build Up	Description	%
Light to Medium Scale	Deposits are light in color and spaced out.	2.5% to 5%
Heavy Scale	Mineral deposits are thick and found throughout the system.	5% to 10%



WHEN TO USE TRAC'S DESCALER CONCENTRATE™ ?

- When you notice an increase in fuel operating cost.
- When your annual inspection uncovers scale built up on the tubes.
- When you notice scale build up at the bottom of the boiler.

WARNING

- A hot boiler will increase the aggressiveness of the solution. In this instance, lower the solutions circulating times.
- It is recommended to have defoamer on hand as many boilers contain calcium build up from the salts used in treating water hardness. Standard

CLEANING INSTRUCTIONS:

- Determine the boiler's total water capacity.
- Isolate the boiler from the circulation system and test each valve to verify proper functioning.
- Locate the lowest inlet point and highest outlet point. Connect the supply side of the circulation equipment to the lowest point, and the highest point to the return side of the circulation equipment.
- Fill the boiler with water until water returns to the tank, keeping the circulating tank at a low level.
- Add the predetermined quantity of **Trac's Descaler Concentrate™** to the recirculating tank.
- Once the system is saturated with the mixed solution, close the return valve and let soak for at least one hour.
- Recirculate for 6 to 16hours, checking pH hourly.
- Once pH reaches a stable level for more than 1 hour, cleaning should be complete. If pH reaches 2.5, adding more **Trac's Descaler Concentrate™** will reactivate it.
- After circulation time is completed, drain the solution and flush the system with fresh water. Be sure to open the boiler and manually remove any residue left behind during cleaning.

WHAT DO I NEED TO USE TRAC'S DESCALER CONCENTRATE™ ?

- All that is needed is a recirculating tank, corrosion proof centrifugal pump, hoses and fittings.
- Please note that most of these items are available at your local hardware or pool supply store.

Heat Exchanger cleaning instructions.

Why should I use Trac's Descaler Concentrate™ ?

Heat exchangers are a very crucial to any systems operations. Over a time, they can accumulate mineral deposit that can reduce heat transfer and flow, and therefore resulting in down time. With **Trac's Descaler Concentrate™** and minimal dismantling, you can safely clean a heat exchanger in place.

As little as 1/64" of scale build-up can reduce system efficiency by as much as 15%. Although there are many descalers on the market today, most are Hydrochloric acid based and can easily damage the equipment. Only **Trac's Descaler Concentrate™** can safely remove scale, rust and lime build-ups from deep within the system, **Trac's Descaler Concentrate™** is 100% biodegradable, safe to both user and equipment, and is completely non-toxic.

When to use Trac's Descaler Concentrate™ ?

- When doing a physical inspection and you notice a scale built up on your tubes.
- When your delta T has a differential of more than 7.
- If your system is overheating.

How much Trac's Descaler™ do I need?

To determine how much **Trac's Descaler Concentrate™** you need, simply multiply the appropriate percentage (from the table below) by the systems water capacity.

Build Up	Description	%
Light Scale	Deposits are light in color and spaced out.	2.5%
Heavy Scale	Mineral deposit is thick and found throughout the system.	5%

Cleaning Instructions:

- Determine the heat exchanger total water capacity. Refer to our Pipe Gallonage Chart.
- Isolate the heat exchanger from the rest of the system and disconnect the water inlet and outlet of the side to be cleaned.
- Remove all excess water from the heat exchanger. This is important so as not to over dilute the solution.
- Connect flushing adapters to the heat exchanger and the recirculation hoses to the flushing equipment
- Water test by filling the flushing equipment tank with water and pumping until a closed loop is established.
- To make sure that no leaks are present in the system, mark the tank's level, which should be sustained for at least 10 min.
- Slowly add the proper amount of **Trac's Descaler Concentrate™** into the flushing equipment's tank. Refer to our Time Chart for the required flushing times.
- After the circulation, thoroughly drain the solution and fresh water flush the heat exchanger and reconnect.

Warning

- It is important to determine the system integrity prior to starting the application. When descaling a water cooled system, it can be hard to determine the amount of scale accumulated over the years. In some cases, the scale build up might be such that scale might be hiding pin holes in the piping and this can sometimes cause leaks during the descaling process.



Cooling Tower cleaning instructions

Why should I use Trac's Descaler Concentrate™ ?

- Scale deposits in closed water cooled system can dramatically reduce heat transfer. As little as 1/64" of scale build-up can reduce system efficiency by as much as 15%. Although there are many descalers on the market today, most are Hydrochloric acid based and can easily damage the equipment. Only **TRAC's Descaler Concentrate™** can safely remove scale, rust and lime build-ups from deep within the system, **TRAC's Descaler Concentrate™** is 100% biodegradable, safe to both user and equipment, and is completely non-toxic.

How much Trac's Descaler™ do I need?

- To determine how much **TRAC's Descaler Concentrate™** you need, simply multiply the appropriate percentage (from the table below) by the systems water capacity.

Build Up	Description	%
Light Scale	Deposits are light in color and spaced out.	2.5%
Heavy Scale	Mineral deposit is thick and found throughout the system.	5%



When to use TRAC's Descaler Concentrate™ ?

- When doing your yearly inspection of your chiller and you notice a scale built up on your tubes.
- When your delta T has a differential of more than 7.
- If your cooling tower fill has scale built up or algae.
- If you notice built up at the bottom of your cooling tower pan.

Cleaning Instructions:

- Determine the systems total water capacity by adding up the length of the different size piping, capacity of the cooling tower and any chillers. Refer to our Pipe Gallonage Chart to determine the capacity of different size of piping.
- Turn off the systems make up water and bleed.
- Drain cooling tower pan to where water level is at a minimum, making sure not to drain to much, or the pump might cavitate.
- Using the chart above and the systems capacity, slowly add the proper amount of **Trac's Descaler Concentrate** in the cooling tower. Let the system recirculate for a minimum of 10 hours.
- After 10 hours of circulation, turn make up water and bleed back on. This will help remove the dissolved residue.
- To remove all residue from the system, it is recommended that the cooling towers drain valve is opened and the make up water added.

Warning

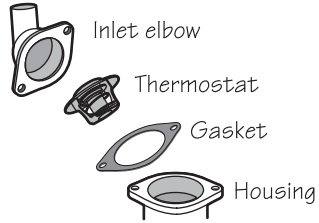
- When descaling a closed water cooling system, sometimes it is hard to determine the amount of scale that has accumulated over the years. In some cases the scale build up might be such that the scale might be hiding pin holes in the piping and if this is the case, it can sometimes cause leaks during the descaling process. It is therefore important to determine the system integrity prior to starting the application.
- Also note that in systems with inline condensers units located on each floors might need to be independently flushed. When convenient, it is recommended that the sump tank be drained and flushed and that the strainer screen be removed and inspected for any insoluble material.



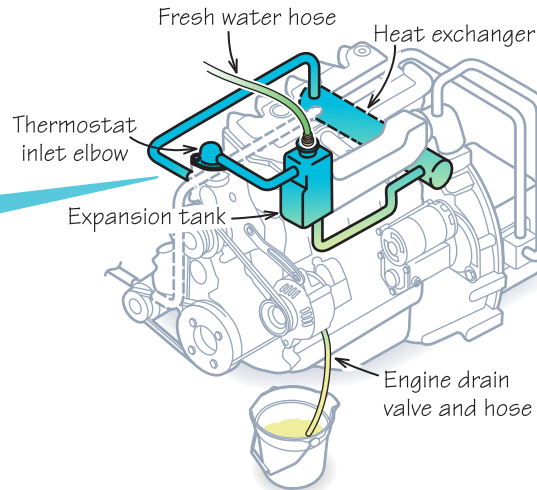
Engine Coolant Flush with Trac's Descaler

Thermostat

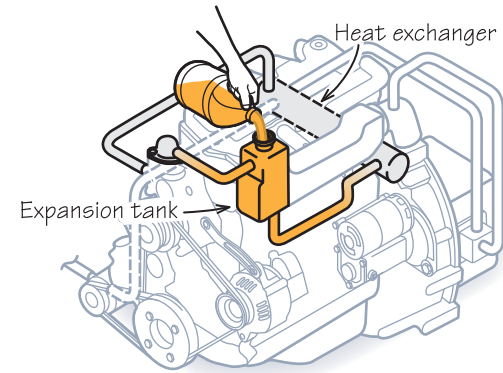
Remove thermostat and replace inlet elbow and gasket.



- 1 To ensure proper flow, remove the thermostat during the flushing procedure.

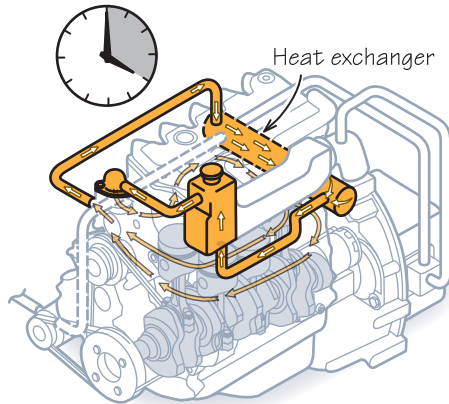


- 2 Drain coolant from engine and flush with fresh water to ensure all the coolant has been completely removed.

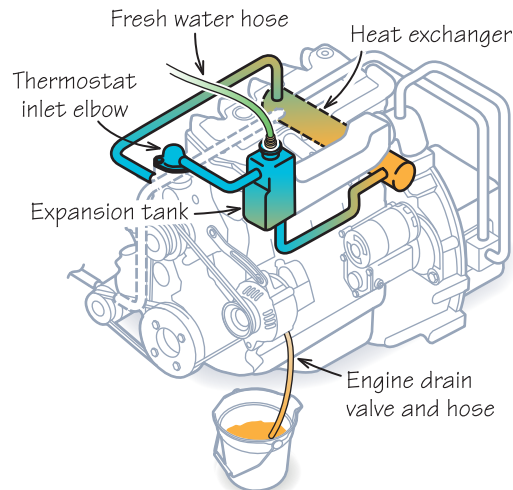


- 3 Fill system with a pre-mixed solution of water and TRAC Descaler Concentrate® (see product label for correct dilution ratio).

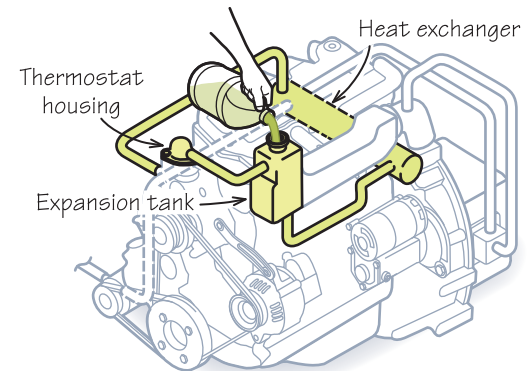
Run engine for 4 hours



- 4 Start engine to circulate solution through internal cooling channels. Run engine intermittently on and off every 30 minutes for four hours.



- 5 Drain solution and flush system until all traces of the TRAC Descaler® solution are removed.



- 6 Secure drain valve, replace thermostat and fill the engine with engine coolant (see manufacturer's specifications).



MATERIAL SAFETY DATA SHEET

COMPANY INFORMATION

Trac Ecological Marine Products & Services
1103 Old Griffin Road
Dania, FL 33004
Phone: (954) 987-2722 Fax: (954) 583-4933

MSDS INFORMATION

Preparation Date: 05/08/2014
Supersedes: 09/29/2004
Prepared By: Security Committee
Phone: (954) 987-2722

PRODUCT INFORMATION

Product name/Number): **Descaler Concentrate 1212-M**
Trade Name – **Descaler Concentrate**
Product Description: (product use): Concentrated descaler for fresh water scale

SECTION I – COMPOSITION / INFORMATION ON INGREDIENTS

This Material Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Workplace Hazardous Materials Information System (WHMIS). Unlisted ingredients are not "hazardous" per the OSHA standard and /or are not found on the WHMIS ingredient disclosure list.

Hazardous ingredients	: Phosphoric .Acid food grade 85%	FLAMMABILITY	: <0 >
Approx. concentration. (%)	: 40% - 85%	REACTIVITY	: <0 >
#CAS – NA or UN	: 7664-38-2	HEALTH	: <1 >
DL 50 (specific type and way)	: 3500mg/kg		
Limit of exposition	: none		

SECTION II – FIRE AND EXPLOSION HAZARD DATES

Inflammability	: () yes	(x) no
If yes, in which conditions?		
Extinguishing media	: water - foam - powder, dry chemical.	
Special method	: none	
Flash point / method	: none close cup	
Flammability limits in air (% per volume)	: N/D.	
Temperature auto ignition(°F)	: N/A	
Class of flammability THD	: N/D	
Unusual fire and explosion hazard	: none	
Explosion data	: none	
Sensibility of chemical impact	: none	
Combustion rate	: N/A	
Sensibility of electrostatic discharge	: N/A	

SECTION III- PHYSICAL CHARACTERISTICS

Physical state	: () GAS	(x) LIQUID	() SOLID
Odor and appearance	: Clear / light amine odor		
Threshold odor	: N/A		
Density	: 1.61		
Vapor pressure (mm Hg)	: 14mm hg/20 deg.c.		
Vapor density (air = 1)	: N/A		
Evaporation rate	: Same as water		
Boiling point	: 350°F		
Freezing point (°F)	: -34° F		
Solubility in water (70°F)	: Complete		
pH	: . 9		



SECTION IV- TRANSPORTATION INFORMATION

Transportation: Class 55
Not regulated

SECTION V – REACTIVITY DATA

Chemical stability : (x) yes () no
If yes, in which conditions? : if store at the recommended temperature

Incompatibility (Materials to avoid): Avoid contact with materials such as sulfides and sulfites which could release toxic gases, and be cautious in mixing with strong Alkali bases because high heat of reaction can generate steam.

Hazardous Decomposition Materials: None
Hazardous Polymerization: None
Conditions to Avoid for Polymerization: None described
Stability Considerations: Stable
Conditions to Avoid for Stability: None

SECTION VI – POTENTIAL HEALTH EFFECTS

Eyes: Eye contact with liquid product may cause irritation.
Skin: Prolonged or repeated contact with liquid product may cause light irritation.
Inhalation: Exposure to vapors in poorly ventilated areas may cause light irritation of the nose.
Ingestion: Not an anticipated route of exposure. Small amounts are not anticipated to be harmful.

SECTION VII – TOXICITY DATA

Chronic effects of exposure to the product : none
Irritations : none
Exposition limit : see section II
CL50 of product : N/A
Sensibility : N/A
Synergic Material
- Carcinogenicity effects : none
- Harmful effects of reproduction : none
- Teratogenes effects : none
- Mutageny effects : none

SECTION VIII - FIRST AID MEASURES

Skin: wash with water for a few minutes
Eyes: rinse with water for a few minutes, if irritation persist consult a physician
Ingestion: drink one or two glasses of water or milk. Do not induce vomiting consult a physician if stomach ache persist.
General recommendation: none

SECTION IX – SPILL OR LEAK PROCEDURES

Small Spills: Spill and lead disposal procedure. Rinse with water
Large Spills: Should be absorbed by dirt or other absorbents for disposal. Must conform to Federal, State and Municipal regulations.

SECTION X - PERSONAL PROTECTION

Protection equipment: - gloves : rubber gloves
- respiration protection : none
- eyes protection : goggle
- shoes : normal
- clothing : normal
- control mechanic device : none

SECTION XI – SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing: Store drums away from excessive heat.