



# **TURBO-KLEEN™**

## **CHARGE AIR COOLER CLEANER**

**RESTORES** heat transfer efficiency.  
**SAVES TIME:** Only a 15 minute soak is needed.  
**SAVES LABOR:** Cleans and degreases in one step.

Turbo-Kleen is a new concept in cleaning. It combines an organic orange terpene degreaser and a mild acid cleaner/brightener. This combination makes cleaning air coolers a quick and easy task. The terpene degreasers remove the oil, diesel soot and road grime so that the acids can then remove oxidation. Full air-flow and heat transfer are restored in one step.

The acids provide an additional benefit not found in any other cleaner. The turbulators in the tubes of a charge air cooler prevent good cleaning action from taking place. Long soak times or repeated flushing are often necessary. The foaming action of Turbo-Kleen greatly improves the degreasers ability to remove grime and break up oil by constant agitation inside the tubes. Cleaning is faster and more complete.

Turbo-Kleen has been tested extensively with positive results on coolers manufactured by many different methods. The product does not harm epoxies and viton rubber or silicone gaskets.

### **Directions**

1. Flush the cooler with water in the flush booth to remove all the oil that will flush out. Flushing first will reduce the amount of chemical used.
2. Dilute Turbo-Kleen with water at 1:1 or 1:2 in a clean pail.
3. Place the air cooler on a flat surface with the filler necks facing up.
4. Fill the cooler with the mixed solution of Turbo-Kleen until it is completely

full. A bubbling action will occur which improves the cleaning performance.

5. Allow the solution to work for 15 minutes.
6. Empty the cooler into a pail and save the solution for future use.
7. Flush the cooler thoroughly with clean water.
8. Be sure to label the pail containing the mixed solution to comply with OSHA regulations. If there is oil on the surface of the solution, skim it off and dispose of it properly. Change the solution when performance decreases. The Turbo-Kleen solution may be disposed of through a water treatment process with no problems.

Note: If the Turbo-Kleen solution can be circulated through the cooler with an acid-safe pump the strength of the solution may be reduced to 1:4. Circulate for 15 minutes. An old Flow Tester may work for this purpose.

**Cautions:** Do not use on or near glass or it will be etched. This product will damage concrete with repeated contact. Do not use on aircraft or anodized aluminum. Do not heat this product.

**Metal removal:** Since Turbo-Kleen is an acid cleaner it does remove some of the aluminum during cleaning. It removes about 0.2 mil of aluminum after a 15 minute soak at a dilution of 1:1. At 1:2 it removes 0.1 mil. A 30 minute soak would double these numbers.



**Packaging:**

Available in 5 gallon plastic pails, 15 gal. carboys and 55 gal. plastic drums.

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## INSTRUCCIONES PARA TURBO-KLEEN LIMPIADOR DEL ENFRIADOR DEL AIRE EN ESPAÑOL

**Instrucciones:**

1. Inunda el enfriador del aire con agua a fluir por quitar todo el aceite que fluirá fuera. Este reducirá la cantidad de químico usado.
2. Diluye Turbo-Kleen con agua a 1:1 o 1:2 en un cubo limpio.
3. Pone el enfriador del aire en una superficie llana con las cuellos del llenador apunta arriba.
4. Llene el enfriador con la solución mezclada de Turbo-Kleen hasta que es completamente lleno. Una acción del burbujea ocurrirá que mejora la ejecución de la limpieza.
5. Deje que la solución trabaja por 15 minutos.
6. Vierta el enfriador en un cubo y le preserva la solución por uso futuro.
7. Inunde el enfriador completamente con agua limpia.

8. Sea seguro etiquetar el cubo contiene la solución mezclada cumplir con regulaciones de OSHA. En caso que hay aceite en la superficie de la solución, lo espuma del todo y dispone de él propiamente. Cambie la solución cuando ejecución reduce. El Turbo-Kleen se dispone solución de conducto de un proceso del trato del agua sin problemas.

Nota: Si el solución de Turbo-Kleen se puede circular por el enfriador con una bomba ácido-segura se reduce la dilución de la solución a 1:4. Circula por 15 minutos. Un Ensayo de Flujo viejo funcionaría por este propósito.

**Avisos:** No use en o cerca de vidrio o se atacará con el ácido. Este producto dañará hormigón con contacto repetado. No use en avión o aluminio del anodico. No se caliente este producto.