

TCS-RSR

- **TCS-RSR** rust remover removes rust and rust stains, and is a highly concentrated water-based liquid made with emulsifiers, stabilizers and acid to dissolve rust on the surface of steel.
- It is a specially developed, effective acid-based, low-foaming, water-soluble detergent for washing animal-vegetable oil and fatty acids, heavy crude oil and petrochemical byproducts, etc

1. Features and merits

- Excellent decomposition of pollution material and predominant washing
- Excellent removal of fat, rust, and scale
- Effective on cement deposits and removes dry stains
- Rapid removal of rust and discoloration while preventing rust from enlarging
- Washes the surface of steel, and prevents more corrosion
- Make aluminum clean and sparkling
- Prevents more rust and reinforces paint coatings to protect metal surfaces
- Improvement in workplace due to water solubility and nonflammable
- Stability in light and soft water, seawater
- Does not contain petroleum or estrogen compounds
- Extensive dilution ratio
- Stability on rubber and plastic alloy

2. Physical and chemical properties

Appearance (original liquid)	Light yellow transparent liquid
Specific Gravity (water = 1)	1.22-1.25
pH (original liquid)	<1.3(±0.2)
Solubility (menstruum = water)	Completely soluble in fresh water or seawater
Influence to non-ferrous metals discoloration and corrosion test	No (It is dangerous to corrosive when in contact for a long time)
Influence to rubber & plastic	No
Ignition point (°C)	No
Odor	Light low-impetus perfume odor

3. Usage scoup

- A. Remover of rust and rust stains on every part when repairing vessels and machinery, factory machines, others
- B. Removes rust and rust stains before coating with paint in pump rooms, engine rooms, decks, ceilings and panels
- C. Peels off steel rust and removes rust and oil
- D. Multipurpose cleaner of animal-vegetable oil fatty acids, crude oil
- E. For boilers, heat exchangers, purifiers, intercoolers of main engines, heat exchangers and pipesdiesel engine piston coolers
- F. Peels off steel rust and removes rust and oil
- G. Removes shellfish in sea coolers
- H. Removes cement deposits and dry cement stains

4. Usage and methods of dilution

- A. Direct spray method: Use a high-pressure tank washing machine
- B. Dilution ratio: Generally 1-10%, 10-100 L mixing per 1TON for washing water
- C. Acid should always be added to water, never the reverse
- D. Cycling tips : This is let liquid to cycle in everywhere until wash finished, should confirm whichever cycle or not completely in everywhere in case of adopt this way
- E. Required time : About 20 minutes require
- F. Acid should always be added to water, never the reverse

5. Usage with high-pressure tank washing machine

- A. Initiate cleaning: Recommend washing inside tank with seawater or fresh water at 40-80 °C before using TCS-RCR
- B. TCS-PARA usage tips
 - 1) Put 1-10% original liquid (washing water 1TON: original liquid 10-100 L) into mixture tank
 - 2) And washing water capacity accounts for about 5-10% of the chemical tank so as to increase the occurrence of the water current
 - 3) The dilution ratio varies according to the extent of contamination, and it is good to keep the washing water temperature at 40-80 °C to get the best effect, and one pail of original liquid can wash one or two tanks when comparing the extent of contamination.
- C. Final cleaning: After cleaning with the chemical, wash with seawater or fresh water before drying

⊙ REMARK

After unloading heavy crude oil (base oil, petroleum-based), if using WWT standard when washing, more-effective washing can be done with our company's alkali product TCS-3, ALOHA SWING or neutral product TCS-3PLUS, ALOHA SWING PLUS than with TCS-RSR, but when washing with TCS-RSR is unavoidable, wash walls with primary Hot SW sufficiently (for three to five hours) and check walls, using TSC-RSR diluted with washing water (seawater or fresh water)

is effective on animal-vegetable oil fatty acids, cargo of acid type, TCS-RSR and TCS-SCMR are effective

6. Rust stain remover usage tips and dilution ratio

- A. Dilution ratio: Depends on surface conditions, but generally a 10-50% dilution with water
- B. Usage temperature: Capable in usual conditions, but 40-60°C is more effective
- C. Washing tips: Increase washing effect according to mixing degree in immersion and pressure in spray, but can use immersion or spray
- D. Cycling tips: Let liquid cycle in everywhere until washing is finished, should confirm whether or not it has completely cycled everywhere if this method is adopted
- E. Required time: About 5-40 minutes
- F. General usage
 - 1) First, remove scale and rust with a brush or wipe off before using TCS-RSR (if the rust is heavy, use a wire brush)
 - 2) For best results, remove oil and grease from surface
 - 3) Use detergent from a 50% solution of original liquid in cases of heavy corrosion and weld-repaired parts
 - 4) Use detergent with a 10-40% solution and completely wash with fresh water on the surface after 10-30 minutes in the case of less corrosion or polluted surfaces and discoloration of brass or copper
 - 5) Use detergent with a 10-20% solution and completely wash with fresh water on the surface after five minutes for aluminum
 - 6) Use detergent with a 10-20% solution and completely wash with fresh water on the surface after 10-40 minutes for stains on paint-coated surfaces
 - 7) Use detergent with a 10-40% solution according to degree of contamination and completely wash with fresh water on the surface after 10-50 minutes in the case of glass, ceramic ware, enamel, ceramic tile, etc.
 - 8) Use TCS-SCMR to remove congealed cement
 - 9) Use detergent with a 50% solution and wash with high-pressure water after 30 minutes to remove lime and cement
 - 10) Use detergent with a 5-10% solution through the recycling method for discoloration and rust on cargo line of epoxy tank and stainless (when spraying there, use a 5% solution), and continuously spray or recycle until rust and discoloration is removed
 - 11) Cycle with a 5-10% solution to remove white stains on tank walls with stearin, olein, palm oil, etc. after discharge. Spray with 5% solution detergent until clean
 - ⊙ Be usable to make adjustment workplace to dilute ratio suitably according to the terms above
 - ⊙ Use with a soft sponge or brush when washing machinery and facilities, and use warm water for best effect

7. Packaging unit

A. Drum packing: Actual capacity 210 L plastic drum packing

B. Pail packing: Actual capacity 25 L plastic pail packing

8. Care in storage and usage

A. Do not allow contact with body or clothes due to acidity

B. Work in a well-ventilated place because acidity and gas can occur

C. Do not look into the container during ventilation

D. Wear safety protection equipment including anti-chemical gloves when using

E. Use only for the stated purpose

F. Close cap after use

G. Avoid sunlight and store without freezing

H. Don't load more than three stages

I. Refer to technical data and MSDS about others information details