

# A comparison of six widely used types of rust removal.

Type of product	Strong acid	Strong Alkali	Electrolysis	Media Blast	EVAPO-RUST
<b>Human safety</b>	Very corrosive, Toxic	Very corrosive, Toxic	Corrosive, Toxic	Inhalation hazard Blast hazard	Completely safe
<b>Safety on other surfaces</b>	Attacks soft metals, Causes hydrogen embrittlement	Attacks soft metals, paint	Attacks soft metals Can cause hydrogen embrittlement	Harms soft metals, removes paint	Completely safe
<b>Flammability</b>	Generates explosive hydrogen	Non-Flammable	Generates explosive hydrogen	None	Non-Flammable
<b>Ease of disposal</b>	Must be neutralized before disposal	Must be neutralized before disposal	Must be neutralized before disposal	Must be sent to a landfill in most cases	Can be put into city sewer in most states
<b>Ease of use</b>	Soak parts cold without agitation	Must be heated without agitation	Requires strictly controlled DC current source	Requires labor to blast and	Soak parts cold without agitation
<b>Equipment required</b>	Proper ventilation Gloves, Respirator, Apron	Proper ventilation Gloves, Respirator, Apron	DC Rectifier, Gloves, Respirator, Apron	Blasting equipment Gloves, Respirator, Apron	None
<b>Potential Errors</b>	Using too long causes part deterioration	Using too long of use causes part deterioration	Using too long causes part deterioration	Improper use can damage thin metal areas	None
<b>Effectiveness</b>	Will remove all rust but attacks underlying metal	Will remove all rust	Removes all rust	Only removes rust on the surface of the part	Removes all rust even in tight places such as between nuts and bolts
<b>Rust inhibition</b>	De-rusted parts flash rust quickly	De-rusted parts flash rust quickly	De-rusted parts flash rust quickly	De-rusted parts flash rust quickly	Prevents re-rusting for about two weeks
<b>Speed</b>	Light rust removed in 5 - 10 minutes	Light rust removed in 45- 60 minutes	Light rust removed in 3- 5 minutes	Quick removal but requires set up time for equipment and safety equipment	Light rust removed in 5 -10 minutes
<b>Cost per unit</b>	55 gallon \$18.95 \$1,042.25	600# \$1.85 \$1,110.00	600# \$1.30 \$780.00	600# \$0.15 \$90.00	55 gallon \$13.00 \$715.00
<b>Cost of Equipment</b>	None	\$500 and up	\$60,000 and up	\$2,000 and up	None
<b>Cost of Labor</b>	Minimal	Minimal	Minimal	300 square ft/ hour	Minimal
<b>Average product cost per square ft of rusty surface</b>	\$0.12	\$0.12	\$0.02	\$0.01	\$0.05
<b>EPA reporting required</b>	Yes if 2000# + on site	Yes if 2000# + on site	None	None	None
<b>Disposal of Waste</b>	Neutralization	Neutralization	Neutralize Landfill sludge	Remove media and landfill if paint is present	City Sewer