

# **ALL SAFE<sup>®</sup>**

## **SOLVENT-FREE METAL & PARTS WASHING COMPOUND**

### **PRODUCT DESCRIPTION:**

All Safe is a solvent-free, moderately foaming, water dilutable detergent complex formulated to safely remove moderate industrial soils. All Safe has a very mild "soapy" fragrance, amber in color and water thin.

### **SAFE ALTERNATIVE FOR CHLORINATED AND NON-CHLORINATED SOLVENTS:**

Due to the hazards of chlorinated solvents, solvents in general and high alkaline compounds, Spartan developed All Safe to be a cost effective alternative for Trichlor, Perchlor, Methylene chloride, Carbon tetrachloride and other highly hazardous materials.

In the formulation of All Safe, Spartan chemists have created revolutionary emulsification technology that to our knowledge has never been previously accomplished. This creative chemistry provides in All Safe a product with the features, advantages and benefits of trichlor type products without the negative effects to people and the environment.

### **MULTI METAL CORROSION PROTECTION:**

The All Safe formula includes multiple rust and corrosion inhibitors to inhibit rust and corrosion on aluminum, steel, cast iron, stainless steel, brass, copper, Hastelloy, Inconel, Titanium, Tantalum, and Magnesium. All Safe is safe to use on plastic, glass, ceramic, synthetic rubber, typical o-rings and seals made of Viton, Buna-N, Neoprene, Teflon, polyethylene, polypropylene and most other normally used seals, o-rings and tubing.

### **ENVIRONMENTALLY SAFE AND USER FRIENDLY:**

Safe for the environment, All Safe is biodegradable and phosphate free. All Safe greatly reduces hazards to employees in the industrial workplace. Non-flammable. Non-corrosive. No VOCs. No solvents, phenols, phosphates, nitrites, nitrates, PCB's, butyl or other substances known to be toxic or highly hazardous to individuals or the environment.

**VERSATILE:**

Specifically developed for parts washing operations, All Safe may also be used in conjunction with pressure washers, steam cleaners, dip tanks (hot or cold). Wipe on, brush on, and use in soak tanks, moderate pressure spray booths and ultrasonic cleaners.

**EXCELLENT CLEANABILITY:**

Removes grease, cosmoline grease, oily carbon, carbon exhaust, coolant residues, baked on hydraulic and lube oils, motor oils, die lubes, inks, road film, solvent based rust preventatives, lapping compound, printers ink and other general dirt and debris. The following charts demonstrate All Safe's excellent corrosion protection for a variety of metals.

(Tests were at 120°F for 120 hours).

<b>ALL SAFE (10:1 DILUTION)</b>			
<b>METALS</b>	<b>WEIGHT LOSS (%)</b>	<b>MARGIN OF ERROR</b>	<b>RATING*</b>
ALUM. 2024-T6	0.05	+/-0.02	0
ALUM. 6061-T6	0.04	+/-0.02	0
ALUM. 7075	0.02	+/-0.01	0
BRASS	0.007	+/-0.02	0
COPPER	0.05	+/-0.05	0
STEEL	0.05	+/-0.03	0
CAST IRON	0.02	+/-0.02	0
MAGNESIUM	0.02	+/-0.01	0
LOW-CADMIUM STEEL	0.04	+/-0.002	0
<b>ALL SAFE (20:1 DILUTION)</b>			
<b>METALS</b>	<b>WEIGHT LOSS (%)</b>	<b>MARGIN OF ERROR</b>	<b>RATING*</b>
ALUM. 2024-T6	0.05	+/-0.02	0
ALUM. 6061-T6	0.04	+/-0.02	0
ALUM. 7075-T6	0.00	+/-0.01	0
BRASS	0.00	+/-0.02	0
COPPER	0.00	+/-0.05	0
STEEL	0.00	+/-0.03	0
CAST IRON	0.02	+/-0.02	0
<b>ALL SAFE (30:1 DILUTION)</b>			
<b>METALS</b>	<b>WEIGHT LOSS (%)</b>	<b>MARGIN OF ERROR</b>	<b>RATING*</b>
ALUM. 2024-T6	0.01	+/-0.01	0
ALUM. 6061-T6	0.00	+/-0.02	0
ALUM. 7075-T6	0.00	+/-0.01	0
BRASS	0.00	+/-0.02	0
COPPER	0.00	+/-0.05	0
STEEL	0.00	+/-0.03	0
CAST IRON	0.02	+/-0.02	0

**\*RATING SCALE**

0 = NO STAIN;

1 = LIGHT <50% AREA SCALE

2 = LIGHT >50% AREA

3 = MODERATE <50% AREA

4 = MODERATE >50% AREA

5 = EXTREME BLACK

**NOTE:** No "white rust" or pitting was observed on the aluminum in concentrations ranging from 2:1 (43 oz./gal.) through 30:1 (4 oz./gal.).

**SAVES MONEY!** All Safe reduces costs associated with chlorinated and highly alkaline pH compounds in three ways:

1. Biodegradable and sanitary sewer safe in most areas. Once removed, All Safe can be disposed of in most sanitary systems in the United States. There are no known objectionable components in All Safe that OSHA and/or the EPA has determined to be hazardous. It is always best, of course, to check with the federal, state and local sanitary sewer departments in the area.
2. In certain areas, extra surcharges are added to haul away costs of chlorinated solvents. There are no haul away costs with All Safe once contaminants are removed. All Safe will greatly reduce trade waste disposal costs at any facility.
3. Does not contain any compounds reportable by SARA Title III, Section 313. SARA Title III (Superfund Amendments and Reauthorization Act III), part of the Emergency and Community Right-to-Know Act, requires that amounts of chemicals considered toxic or hazardous, or compounds containing materials considered to be hazardous, must be reported to the EPA. All Safe does not contain any element that must be inventoried and reported.

**GREATLY REDUCES HAZARDOUS WASTE:**

All Safe can be recycled and reused. All Safe rejects oils, grease and other non-water soluble soils after it sets undisturbed for 6 to 24 hours. Oils and greases can be skimmed off the top to keep the washing solution clean and contaminant free.

**IDEAL FOR AIRCRAFT:**

Field testing of All Safe included extensive work with major airlines who determined All Safe to be very effective in cleaning all exterior surfaces, engines, landing gears, brakes, cowlings, generators, starters, and other hard to clean surfaces of prop and jet aircraft. Mil spec MIL-C-87937A Type II for corrosion and cleaning, AMS and other mil specs and Boeing tests pending.

**VAPOR DEGREASING:**

Vapor degreasing is a traditional method for cleaning metal parts. This is accomplished by heating chlorinated solvents, such as Trichlor, Perchlor, etc., in a large tank, and then condensing the vapors of this boiling solvent on the cooler metal parts. This vapor condenses on the parts, flushes off the oily type soils. These soils then drip down and become dissolved in the solvent. This cleaning action continues until the part warms up enough to stop the condensation from occurring. The part is then removed. Vapor degreasing is especially effective for removing organic soils, such as oil-based cutting oils, grease, petroleum, and hot meltwaxes.

**IMPORTANT NOTE!** Most vapor degreasers can be modified to handle a solution of All Safe. In other words, a company can keep their vapor degreasing equipment and use All Safe rather than chlorinated solvents. This is accomplished by raising the liquid level in the heated tank and extending the part so it hangs into the liquid.

**EXCELLENT FILTERABILITY:**

A solution of All Safe can be easily filtered by settling, cyclonic, or any positive type media filtration equipment. By filtering a solution of All Safe, you can remove any solid debris, metal chips and fines, etc., from the solution, extending the life of the All Safe tremendously. This greatly reduces the number of times a cleaning solution needs to be changed in a washing operation, thus greatly reducing any haul away costs incurred by the facility.

**TEMPERATURE AND AGITATION GREATLY ENHANCES THE CLEANING ABILITY OF ALL SAFE:**

One of the biggest advantages in straight solvents is the tremendous speed in which they will remove petroleum-based soils. Straight solvents will instantaneously solubilize most oils, greases, etc. All Safe does an excellent job of cleaning these same soils. By choosing a strong concentration, raising the temperature of the cleaning solution, and with the addition of agitation, All Safe will perform any cleaning task done in industry today with chlorinated solvents.

**DIRECTIONS FOR USE:**

1. Dilute with water. See chart for recommended concentration.
2. Apply All Safe to soiled metal. Agitation always reduces time and labor costs.
3. If corrosion protection is desirable, do not rinse. Un-rinsed metal provides an extremely light rust-preventing layer suitable for indoor storage. If residue-free parts are required, rinse completely with water and dry thoroughly with heat or forced air.

The following recommendations are based on Spartan laboratory studies, independent laboratory studies and major airlines facilities' evaluation.

Method	Type of Metal	Temperature (°F)	Soil Condition	oz./gal.
Recirculation & In-Line Parts	Ferrous & Yellow Metals	60-100	Medium	21
		60-100	Heavy	32
		100-140	Medium	14
		100-140	Heavy	21
		140+	Medium	12
		140+	Heavy	14
	Magnesium, Aluminum	60-100	Medium & Heavy	21
		100-140	Medium & Heavy	14
		140+	Medium	8
		140+	Heavy	12
Ultrasonic Cabinet Spray Booth	All Metals	60-100	Medium	21
		60-100	Heavy	32
		100-140	Medium	12
		100-140	Heavy	21
		140+	Medium	8
		140+	Heavy	12
Hot Dip	Ferrous & Yellow Metals	100-140	Medium	14
		100-140	Heavy	21
		140+	Medium	8
		140+	Heavy	12
	Magnesium, Aluminum & Alloys	100-140	Medium & Heavy	14

		140+	Medium	8
		140+	Heavy	12
Cold Dip	Ferrous & Yellow Metals	60-100	Medium	21
		60-100	Heavy	32
	Magnesium, Aluminum & Alloys	60-100	Medium & Heavy	21
Pressure Wash – Cold	All Metals	60-100	Medium & Heavy	21
Pressure Wash – Hot	All Metals	100-140	Medium & Heavy	12
		140+	Medium & Heavy	8
Steam Cleaning	All Metals		Medium & Heavy	8
Foam Gun	All Metals	60-100	Medium	21
		60-100	Very Heavy	32
		100-140	Medium	14
		100-140	Very Heavy	32
		140+	Medium	14
		140+	Very Heavy	32
Hand Wipe	All Metals		Medium	12
			Heavy	21
			Very Heavy	32
Trigger & Pump Sprayer	All Metals		Medium	21
			Heavy	32

### EASY CONCENTRATION CONTROL USING A REFRACTOMETER:

Check the concentration of All Safe in water by using the following refractive index vs. concentration chart.

Refractive Index	Dilution Ratio
8.4	2:1
4.2	5:1
2.2	10:1
1.6	15:1
1.2	20:1
0.9	25:1
0.7	30:1

### SPECIFICATION DATA:

Total Active Ingredients – 25.0

Specific Gravity – 1.0466 @ 24°C/75°F

Density – 8.71 lbs./gal. @ 24°C/75°F

Viscosity – Water thin

pH (Concentrate) – 8.8 - 9.1

Flash Point – None

Solvents (Aromatic and Aliphatic) – None

Stability –

a. Shelf @ 24°C/75°F – One year minimum

b. Accelerated @ 49°C/120°F – 60 days minimum

c. Freeze/Thaw Cycle – Will withstand a minimum of three freeze/thaw cycles.

Miscibility – Mixes well with hot or cold water.

Rinsability – Rinses freely with hot or cold water.

Biodegradable

Phosphate free

**PACKAGING:**

All Safe is available in 330-gallon DOT-approved tote; recyclable HDPE (High Density Polyethylene) 55, 30 and 15-gallon drums; 5-gallon pails and gallons, four per case. Label copy is available in English and Spanish. Secondary labels are also available.

**Be sure to read all Directions, Precautionary and First Aid Statements on product labels before use of this or any Spartan product. If questions remain, consult your employer or a physician. Material Safety Data Sheets for all Spartan products are available from your authorized Spartan distributor or by visiting [www.spartanchemical.com](http://www.spartanchemical.com).**

**GUARANTEE:**

Spartan's modern manufacturing and laboratory control insure uniform quality. If dissatisfied with performance of product, any unused portion may be returned for credit within one year of the date of manufacture.