

**General Description**

ArmaKleen™ M-GP is a low foaming multi-purpose aqueous cleaner formulated for use in spray, immersion, ultrasonic and manual parts washing applications.

This precision formulation is safe on mixed metals like steel and aluminum and has outstanding rinsing properties. These rinsing properties leave minimal residues which meet the stringent demands of the Performance Racing industry.

M-GP is also very effective in industrial applications. The unique surfactant system in ArmaKleen M-GP results in highly effective cleaning with a moderate pH which also has environmental and worker safety benefits. When left on metal surfaces ArmaKleen M-GP provides temporary indoor rust protection during storage and between operations. The amount of rust protection is dependent on many variables including the environmental conditions of the storage facility.

<b>Features</b>	<b>Benefits</b>
Low Foaming	Will not foam in spray applications as low as 120°F
Multi-metal safe	Can simultaneously clean steel and aluminum
Versatile	Effectively cleans in manual, spray, immersion and ultrasonic washers
Cleaner/Rust Preventative	Cleans metals and provides short term corrosion protection
Non flammable	Improves worker safety and eliminates fire hazards
Low VOCs	Meets all Air Quality standards for VOC emissions at 50% concentration and lower
No phosphates, nitrites or amines	Safer for workers and the environment

**Specification Conformance**

ArmaKleen M-GP conforms to the following specifications

- Boeing D6-17487, Exterior and general cleaners and waxes
- AMS 1526B, Cleaner for aircraft exterior surfaces water-miscible, pressure spraying type
- Douglas aircraft CDS#1, General purpose cleaner
- GM FID #334053

**Operating Parameters**

pH of Concentrate: 11.6  
pH of 10% by volume dilution: 11.3

## Operating Parameters – Cont.

Equipment Type	M-GP Concentration	Washer Temperature
Spray Washer	10% by volume	120°F to 160°F
Immersion Washer	10% by volume	120°F to 160°F
Ultrasonic Washer	10% by volume	120°F to 160°F
Manual with light to moderate soils, including hand wipe applications	20% by volume	Ambient (room temperature)
Manual with medium to heavy soils	20% by volume	120°F

## Safety-Kleen Part Numbers

ArmaKleen™ Product (55 Gallon Drum) SK P/N: 6432

ArmaKleen™ Product (5 Gallon Pail) SK P/N:

## Additives

ArmaKleen M-Defoamer HD SK P/N 6310 (Pints – 8 per case)

ArmaKleen M-RP (for added rust protection) SK P/N 6342 (5-gallon pail)

## Soil Compatibility

Grease, oil, lubricants, machining fluids, rust preventatives and other commercial and industrial soils

## Substrate Compatibility

Steel, stainless steel, cast iron, aluminum, copper, glass, polycarbonate and resin surfaces

## Compliance Information



SDS Information
SK P/N 82850 Concentrate English
SK P/N 82850 FR Concentrate French
SK P/N 82850 Cleaning Solution English
SK P/N 82850 FR Cleaning Solution French

National Stock Number
55 gallon – NSN # 6850-01-431-2268
5 gallon – NSN # 6850-01-431-2267

## Titration Information

### Hach Titration Kit

SK P/N 4623 Total Alkalinity Titration Kit (order through branch SAP)

#### Procedure

1. Fill graduated cylinder with 10 mL of ArmaKleen M-GP cleaning solution. The bottom curve of the solution should touch the top of the indicated line.
2. Pour the measured amount of cleaning solution from the graduated cylinder into the Erlenmeyer titration flask. Rinse the cylinder with 5-8 mL of water and transfer it to the same flask.
3. Add 5 drops of Bromocresol Green-Methyl Red Indicator Solution (small dropper bottle) to the flask and mix to produce a blue color. Clean water may be added to dirty solutions to see the color change more clearly. Several more drops of indicator solution may also be added if the solution is excessively dirty.

4. Carefully add 1.0N Sulfuric Acid (square dropper bottle) one drop at a time to the flask, swirling the flask after each drop. Count the number of drops.
5. When the solution changes to a greenish brown or tan color you are near the end point. Continue adding and counting the number of drops until the solution turns to a peach or bright pink color and the addition of an one more drop does not cause any further color change.
6. Use the titration table to find the cleaner concentration from the number of drops of acid used.
7. Wash the test solution down a sink with water. Rinse the graduated cylinder and mixing flask well before storing in the case.

**Cat.# 27501-00 Titration Guide Rev. 6, 9/10**

TITRATION TABLE																						
% CLEANER CONCENTRATION																						
Cleaner	mls	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	25
Sample		DROPS OF ACID REQUIRED FOR COLOR CHANGE																				
M-GP	5	2	5	6	8	10	12	14	16	18	20	22	24	26	28	31	33	35	37	39	40	50

**AquaPhoenix Titration Kit**

SK P/N **xxxxx** Total Alkalinity Titration Kit (order through branch SAP)

**Procedure**

1. Fill graduated cylinder with 10 mL of ArmaKleen M-GP cleaning solution. The bottom curve of the solution should touch the top of the indicated line.
2. Pour the measured amount of cleaning solution from the graduated cylinder into the Erlenmeyer titration flask. Rinse the cylinder with 5-8 mL of water and transfer it to the same flask.
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**Cat.# **xxxxxx** Titration Guide Rev. **xxx****

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Cleaner	mls	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	25



Sample		DROPS OF ACID REQUIRED FOR COLOR CHANGE																				
M-GP	10	2	4	5	7	8	10	11	13	13	15	17	19	20	22	23	25	26	28	29	31	39

**Precautions**

Foaming may occur in air or aggressively agitated systems at operating temperatures below 120°F. Dilutions less than 10% concentration may result in inadequate cleaning.

*IMPORTANT: The information presented in this product labeling and literature, while not guaranteed, is true and accurate to the best of our knowledge. No warranty, express or implied, is made regarding performance, stability or otherwise. Such information is not intended to be all-inclusive, and the manner and conditions of particular uses may involve other or additional preparatory, performance or safety considerations. While our technical personnel will be happy to respond to questions, safe, effective handling and use remains the responsibility of the user.*