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SOLDER/ DESOLDER PRODUCTS

2016

MG Chemicals®

ONE COMPANY... MANY SOLUTIONS

ISO 9001:2008 Registered Quality System • SAI Global File #004008 • Burlington, Ontario, Canada

WHO IS MG CHEMICALS

MG Chemicals is a manufacturer and wholesaler of chemical products for the electronics industry. Our chemical products include dusters and circuit coolers, electronic cleaners, flux removers, contact cleaners, protective coatings, epoxies, adhesives, RTV silicones, lubricants, EMI/RFI shielding coatings, thermal management products, prototyping supplies, solders, and more. We also distribute related non-chemical products such as wipes, swabs, brushes, desoldering braids, copper clad boards and 3D printing filaments.

We specialize in the formulation and production of protective coatings for electronics: Conformal Coatings, Epoxy Potting & Encapsulating Compounds, and EMI/RFI Shielding Paints.

MG SERVICE

MG Chemicals recognizes that setting up production comes with various challenges. Our service team offers a wide variety of experience in material production, equipment, and technical issues you may encounter during planning, pilot studies, and production runs. To overcome these challenges, we offer professional services.

As a service, MG Chemicals can

- Provide advice on equipment and materials
- Assist with setup and troubleshooting
- Review your proposed application processes
- Suggest ways of optimizing and customizing processes to best meet your needs
- Offer training on the proper use of our products.

Quality Assurance

Since 1955, MG Chemicals has provided the North American electronics industry with a full line of high performance chemicals and accessories. The MG Chemicals manufacturing facility operates under the ISO 9001 Quality System Standard. All products undergo MG Chemicals' design process including the testing and analysis of each product to maximize performance, user safety, environmental safeguards and market desirability.

Customer Care

Customer care is what separates MG Chemicals from the rest. Our commitment to all of these principles focus on getting you the quality product and support you deserve.

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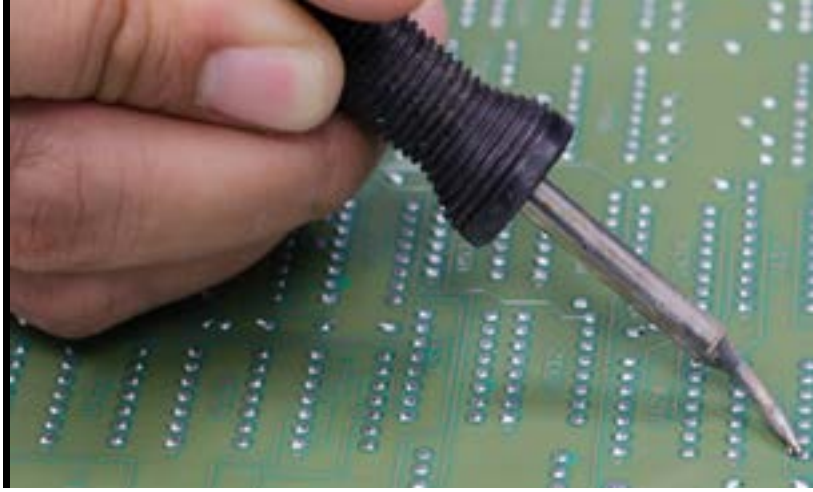
LEADED CORED WIRE

MG Chemicals leaded cored solder wires are formulated for soldering at low temperatures and obtaining faster wetting times while creating the most reliable joints. A low melting point minimizes heat stress on electronic components during soldering, reducing the chances of thermal damages to your boards and parts. Offered in Sn63 / Pb37 and Sn60 / Pb40 metal composition, our leaded cored solder wires are available in Rosin Activated (RA),No Clean (NC) and Water Soluble (WS) flux formulas. Available in standard 2.2% core. Standard packaging are 0.6 oz. pocket packs, ½ lb or 1lb spools. BAR format for wave soldering is also available. All our Leaded cored wires meet or exceed J-STD-004B and J-STD-006C standards.



Sn 60 / Pb40

MG Chemicals Sn60/Pb40 solder wires are formulated from a blend of 60% tin and 40% lead. Made from virgin, non-recycled metal, our flux core manufacturing process eliminates flux voids and irregular wire. This alloy has a longer range and puts down a slightly thicker coating of solder. It is often preferred for lead tinning and other solder coating applications. Available in a wide variety of sizes, diameters and gauges, see complete list on product pages for details.

Sn60 / Pb40 Wire - Rosin Activated (RA) Flux Core

MG Chemicals RA Flux Sn60/Pb40 Leaded Solder is an electronic grade solder wire. It uses a classical tin-to-lead alloy ratio, which is complemented with a RA-like flux core. These solder wires meets J-STD-004 and J-STD-006 specifications. It melts at a slightly higher temperature range than the 63/37 solder. It results in robust and reliable joints that are highly resistant to whisker formation. The RA Flux residues are non-corrosive and non-conductive therefore can be left on the board or cleaned with one of MG's flux removers. (see page 11)

- **Rosin activated Flux core (RA)**
- **Rapid wetting / Fast flowing**
- **Consistent soldering**
- **Non-corrosive flux residue**
- **Non-conductive flux residue**
- **Optional cleaning**
- **Meets J-STD-004C / J-STD-006B**
- **Standard Flux Core percentage at 2.2% ***
- **Melting Point: 183 °C - 191 °C / 361 °F - 376 °F**

Cat. Number	Size	Diameter	Gauge	Flux %	Packaging
4890-18G	18g (0.6 oz)	0.032"	22	2.2	Pack of 25
4890-18GX3	18g (0.6 oz)	0.032"	22	2.2	Pack of 3
4894-227G	½ lb (227g)	0.025"	23	2.2	Spool
4894-454G	1 lb (454g)	0.025"	23	2.2	Spool
4895-227G	½ lb (227g)	0.032"	22	2.2	Spool
4895-454G	1 lb (454g)	0.032"	22	2.2	Spool
4896-227G	½ lb (227g)	0.04"	20	2.2	Spool
4896-454G	1 lb (454g)	0.04"	20	2.2	Spool
4897-227G	½ lb (227g)	0.05"	18	2.2	Spool
4897-454G	1 lb (454g)	0.05"	18	2.2	Spool
4898-227G	½ lb (227g)	0.062"	16	2.2	Spool
4898-454G	1 lb (454g)	0.062"	16	2.2	Spool

Also available in flux core percentages: 1.1% and 3.3%

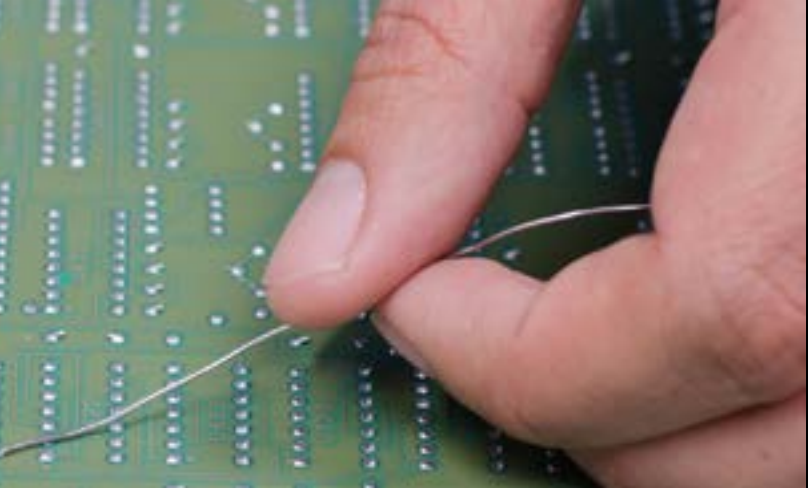
Sn60 / Pb40 Wire - No Clean (NC) Flux Core

MG Chemicals No Clean formula Sn60/Pb40 Leaded Solder is an electronic grade solder wire. It uses a classical tin-to-lead alloy ratio, which is complemented with a no clean, synthetically refined, splatter-proof, resin flux core. These solder wires meets J-STD-004 and J-STD-006 specifications. It melts at a slightly higher temperature range than the classical 63/37 solder. It results in robust and reliable joints that are highly resistant to whisker formation. It leaves a small amount of post-soldering residues that is non-conductive and non-corrosive and won't cause electrical shorts. The name no clean refers to the fact it leaves a lower residue amount than a typical RA or RMA flux. It does not mean there will be no residues.

- **No clean formula**
- **Halide free**
- **Spreads like rosin activated flux**
- **Virtually non- splattering**
- **Low post solder residue**
- **Meets J-STD-004C / J-STD-006B and QQ-S-571**
- **Standard Flux Core percentage at 2.2%***
- **Melting Point: 183 °C - 191 °C / 361 °F - 376 °F**

Cat. Number	Size	Diameter	Gauge	Flux %	Packaging
4870-18G	18g (0.6 oz)	0.032"	22	2.2	Pack of 25
4870-18GX3	18g (0.6 oz)	0.032"	22	2.2	Pack of 3
4875-227G	½ lb (227g)	0.032"	22	2.2	Spool
4875-454G	1 lb (454g)	0.032"	22	2.2	Spool
4876-227G	½ lb (227g)	0.004"	20	2.2	Spool
4877-227G	½ lb (227g)	0.05"	18	2.2	Spool

Also available in flux core percentages: 1.1% and 3.3%



Sn 63 / Pb 37

MG Chemicals Sn63 / Pb37 solder wires are formulated from a blend of 63% tin and 37% lead. Made from virgin, non-recycled metal, our flux core manufacturing process eliminates flux voids and irregular wire. It is eutectic and as such has no plastic range. Generally it flows better than the Sn60 and is the preferred alloy for rework, component attach and touch-up soldering for through-hole and surface mount applications. Sold in flux core wire and available in a wide variety of sizes, diameters and gauges, see complete list on product pages for details.

Sn63 / Pb37 Wire - No Clean (NC) Flux Core

Sn63/Pb37 Leaded Solder is an electronic grade solder wire. It uses the eutectic tin-to-lead alloy ratio, which is complemented with a no clean, synthetically refined, splatter-proof, resin flux core. They meet J-STD-004 and J-STD-006 specifications. It is one of the easiest solders to work with because it offers a low-melting temperature with a sharp melting/solidification point, which results in robust and reliable joints that are highly resistant to whisker formation. It leaves a small amount of light opaque post-soldering residues that is non-conductive and non-corrosive and won't cause electrical shorts. The name no clean refers to the fact it leaves a lower residue amount than a typical RA or RMA flux. It does not mean there will be no residues.

- **No clean formula**
- **Eutectic**
- **Halide free**
- **Virtually non-splattering**
- **Meets J-STD-004C / J-STD-006B and QQ-S-571**
- **Standard Flux Core percentage: 2.2%***
- **Melting Point: 183 °C / 361 °F**

Cat. Number	Size	Diameter	Gauge	Flux %	Packaging
4860-18G	18g (0.6 oz)	0.032"	22	2.2	Pack of 25
4860-18GX3	18g (0.6 oz)	0.032"	22	2.2	Pack of 3
4865-227G	½ lb (227g)	0.025"	22	2.2	Spool
4865-454G	1 lb (454g)	0.025"	22	2.2	Spool
4866-227G	½ lb (227g)	0.04"	20	2.2	Spool

Also available in flux core percentages: 1.1% and 3.3%

Sn63 / Pb37 Wire - Rosin Activated (RA) Flux Core

MG Chemicals RA Flux Sn63/Pb37 Leaded Solder is an electronic grade solder wire. It uses the eutectic tin-to-lead alloy ratio, which is complemented with a RA-like flux core. It generally exceeds J-STD-004 and J-STD-006 specifications. It is one of the easiest solders to work with because it offers a low-melting temperature with a sharp melting/solidification point, which results in robust and reliable joints that are highly resistant to whisker formation. The RA Flux residues are non-corrosive and non-conductive therefore can be left on the board or cleaned with one of MG's flux removers. (See page 11)

- **Rosin activated Flux core (RA)**
- **Eutectic**
- **Rapid wetting / Fast flowing**
- **Consistent soldering**
- **Non-corrosive non-conductive flux residue**
- **Optional cleaning**
- **Meets J-STD-004C / J-STD-006B**
- **Standard Flux Core \percentage at 2.2% ***
- **Melting Point: 183 °C / 361°F**

Cat. Number	Size	Diameter	Gauge	Flux %	Packaging
4880-18G	18g (0.6 oz)	0.032"	22	2.2	Pack of 25
4880-18GX3	18g (0.6 oz)	0.032"	22	2.2	Pack of 3
4884-227G	½ lb (227g)	0.025"	23	2.2	Spool
4884-454G	1 lb (454g)	0.025"	23	2.2	Spool
4885-227G	½ lb (227g)	0.032"	22	2.2	Spool
4885-454G	1 lb (454g)	0.032"	22	2.2	Spool
4886-227G	½ lb (227g)	0.04"	20	2.2	Spool
4886-454gG	1 lb (454g)	0.04"	20	2.2	Spool
4887-227G	½ lb (227g)	0.05"	18	2.2	Spool
4887-454G	1 lb (454g)	0.05"	18	2.2	Spool
4888-227G	½ lb (227g)	0.062"	16	2.2	Spool
4888-454G	1 lb (454g)	0.062"	16	2.2	Spool

Also available in Flux Core percentages: 1.1% and 3.3%

Sn63 / Pb37 Wire - Water Soluble Flux Core

MG Chemicals Sn63/Pb37 Water Soluble Leaded Solder is an electronic grade solder wire. It uses the eutectic tin-to-lead ratio, which is complemented with a water soluble flux core. It meets J-STD-004 and J-STD-006 specifications. It offers great compatibility with all liquid water-soluble organic flux. It will not decompose and carbonize under prolonged heat. Cleaning flux residue only requires water rinse or in-line cleaning after soldering. Minimal spattering.

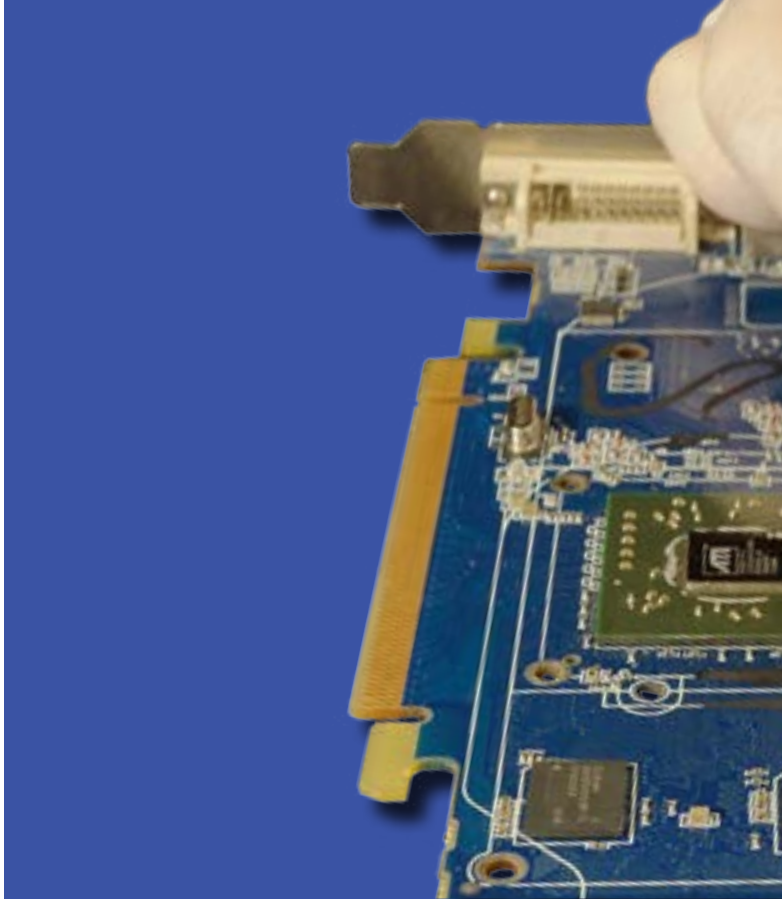
- **Water soluble formula**
- **Low VOC**
- **Fast wetting and flowing action**
- **Meets J-STD-004C, J-STD-006B**
- **Standard Flux Core percentage at 3.3%**
- **Melting Point: 183 °C / 361.4 °F**

Cat. Number	Size	Diameter	Gauge	Flux %	Packaging
4885WS-454G	1 lb (454g)	0.032"	22	3.3	Spool

Also available in flux core percentages: 1.1% and 3.3%

LEADED-FREE CORED WIRE

MG Chemicals Lead-Free flux cored solder wires are formulated as a lead-free alternative for the standard leaded solder applications. Made from virgin, non-recycled metals, these alloys have higher melting temperatures and wet metal surfaces more slowly. The joints also look different in that the surfaces are not as reflective as tin-lead joints. These lead-free wires maintain a consistent solder and flux percentage. Our Lead-Free cored wires are economical;1Lb of non leaded wire has 27% more length than leaded solder. Offered in Sac 305, Sn99 and Sn100e, our Lead-Free cored solder wires are available in Rosin Activated (RA),No Clean (NC) and Water Soluble fluxes.Typical flux percentage for our Lead-Free solder is 2.0-4.0%. They all meet or exceed J-STD-004B and J-STD-006C standards and are RoHS compliant.



Sac 305 - No Clean (NC) Flux Core

MG Chemicals Lead-Free solder Sac 305 (Sn96) is an electronic grade, lead-free solder wire. It uses the predominant lead-free alloy composition. It is complemented with a no clean, synthetically refined, splatter-proof resin flux core. These solder wires meets J-STD-004 and exceeds J-STD-006 purity specifications. This solder is a great alternative to leaded solders. Mild enough to not require cleaning, it leaves a small amount of post-soldering residues that is non-conductive and non-corrosive and won't cause electrical shorts. The name no clean refers to the fact that the flux residues are not harmful to assemblies and does not mean there will be no residues.

- **Lead Free**
- **Halide free**
- **The resin spreads like rosin activated flux**
- **No clean flux**
- **Virtually non- splattering**
- **Hard non-conductive residues**
- **Exceeds J-STD-004B, J-STD-006C**
- **RoHS compliant**
- **Available Flux Core percentage: 2% to 4%**
- **Melting Point: 217 °C - 221°C / 422 °F - 430 °F**

Cat. Number	Size	Diameter	Gauge	Flux %	Packaging
4900-112G	¼ lb (113g)	0.032"	21	2.2	Pack of 25
4900-227gG	½ lb (227g)	0.032"	21	2.2	Pack of 3
4900-454G	1 lb (454g)	0.032"	21	2.2	Spool
4900-35G	17g (0.6 oz)	0.032"	21	2.2	Spool

Also available in flux core percentages: 2% to 4%

Sn99 - No clean (NC), Halogen Free Flux Core

MG Chemicals Sn99 Lead-Free solder is an electronic grade solder wire. It uses a high-purity, eutectic Sn99.3/Cu0.7 alloy, which is complemented with a no clean, synthetically refined, splatter-proof resin flux core. This solder meets J-STD-004 and exceeds J-STD-006 specifications.

It is a great lead-free alternative to leaded solders. It is a suitable, less costly replacement for SAC305. It leaves a small amount of post-soldering residues that is non-conductive and non-corrosive and won't cause electrical shorts. The name no clean refers to the fact that the flux residues are not harmful to assemblies and does not mean there will be no residues.

- **Lead Free**
- **Eutectic**
- **Halide free**
- **The resin spreads like rosin activated flux**
- **No clean flux**
- **Virtually non-splattering**
- **Hard non-conductive residues**
- **Exceeds J-STD-004B and J-STD-006C standards**
- **RoHS compliant**
- **Available Flux Core percentage: 2% to 4%**
- **Melting Point: 227 °C - 440 °F**

Cat. Number	Size	Diameter	Gauge	Flux %	Packaging
4901-112G	¼ lb (113g)	0.032"	21	2.2	Pack of 25
4901-227G	½ lb (227g)	0.032"	21	2.2	Pack of 3
4901-454G	1 lb (454g)	0.032"	21	2.2	Spool
4901-2 LB	2 lb (907g)	0.032"	21	2.2	Bar

Also available in flux core percentages: 2% to 4%

Sn100e - No Clean (NC) Flux Core

MG Chemicals Sn100e No Clean solder is an electronic grade solder wire. It uses a high-purity, eutectic tin/copper/cobalt alloy, which is complemented with a no clean, synthetically refined, splatter-proof, resin flux core. The 49500 solder meets J-STD-004 and exceeds J-STD-006 specifications.

This solder is a great lead-free alternative to leaded solders. It generally provides better wetting, contact angle, flow, and visual appearance than typical Sn63/Pb37 no clean solders, while still delivering excellent performance characteristics. It offers superior solder penetration into plated through holes and surface mount interconnects. Further, it is a suitable replacement for SAC305 solder since it forms brighter, shinier, and less grainy joints. Furthermore, it is less expensive. Mild enough to not require cleaning, it leaves a small amount of post-soldering residues that is non-conductive and non-corrosive and won't cause electrical shorts. The name no clean refers to the fact that the flux residues are not harmful to assemblies and does not mean there will be no residues.

- **Lead free**
- **Eutectic**
- **No clean formula**
- **Excellent spread and wettability**
- **Low post solder residue**
- **Virtually non- splattering**
- **Meets J-STD-004B, J-STD-006C**
- **RoHS compliant**
- **Standard Flux Core percentage at 3.3%**
- **Melting Point: 228 °C - 442 °F**

Cat. Number	Size	Diameter	Gauge	Flux %	Packaging
49500-454G	1 lb (454g)	0.032"	21	3.3	Spool

Also available in flux core percentages: 2% to 4%

Sn100e - Water Soluble (WS) Flux Core

MG Chemicals Sn100e Water Soluble Solder is an electronic grade solder wire. It uses a high-purity, eutectic 99.5% tin, 0.5% copper, and cobalt alloy, which is complemented with a water soluble flux core. These solder meet J-STD-004 and exceeds J-STD-006 specifications.

This solder is a great lead-free alternative to leaded solders. It generally provides better wetting, contact angle, flow, and visual appearance than typical Sn63/Pb37 no clean solders, while still delivering excellent performance characteristics. It offers superior solder penetration into plated through holes and surface mount interconnects. Further, it is a suitable replacement for SAC305 solder since it forms brighter, shinier, and less grainy joints. Cleaning flux residue only requires water rinse or in-line cleaning after soldering. Will not easily decompose and carbonize. Minimal spattering.

- **Lead free**
- **Eutectic**
- **VOC Free**
- **Water soluble formula**
- **Good thermal transfer**
- **Fast wetting action**
- **Maximizes spread**
- **Meets J-STD-004B, J-STD-006C**
- **RoHS compliant**
- **Standard Flux Core percentage at 3.3%**
- **Melting Point: 228 °C - 442 °F**

Cat. Number	Size	Diameter	Gauge	Flux %	Packaging
49500WS-454G	1 lb (454g)	0.032"	21	3.3	Spool

Also available in flux core percentages: 2% to 4%

FLUXES

MG Chemicals offers a full line of solder fluxes formulated to provide high-tack force, superior wetting and remarkable soldering performance levels. Made from high grade natural or synthetic resins and/or thixotropic agents they are specifically formulated for use with high temperature lead-free chemistires or lower temperature conventional leaded alloys.They are designed to meet the changing requirements of today's soldering operations and provide effective adhesion to copper and other substrates and act as an oxygen barrier to prevent oxidation during soldering. Our fluxes are offered in Rosin Activated (RA), No Clean (NC), No Clean Halogen free and Water Soluble (WS) formulations, in paste or liquid format and are available for leaded and / or lead-free chemistries.

Rosin Activated (RA) Flux - Leaded Chemistries

MG Chemicals Rosin Activated Flux is made from pure white water gum rosin, a unique solvent system and very effective activators. The superior fluxing ability remains constant throughout the entire aeration process. This Rosin flux contains a foaming property that provides fast wetting action. It offers superior fluxing ability, instant wetting and good spreading capabilities. It features low surface tension, thermal stability and easy to remove residues. It displays excellent foaming properties and may be applied by dip, spray or brush methods. After soldering, the rosin residue left is non-corrosive, non-conductive, moisture and fungus resistant. Available in liquid or pen formats.

- **Rosin activated Flux (RA)**
- **Compatible with leaded chemistries**
- **Excellent foaming characteristics**
- **Superior fluxing ability**
- **Instant wetting**
- **Fast spreading**
- **Low surface tension**
- **Thermally stable**
- **Excellent foaming properties**
- **Non-corrosive, Non-conductive flux residue**
- **Non Hygroscopic**
- **Moisture and fungus resistant**
- **Meets Mil. spec. #RA 14256**
- **J-STD-004B compliant**
- **ROMI class, J Standard**
- **RoHS Compliant**

Cat. Number	Size	Packaging
835-P	10ml (0.34 fl oz.)	Pen
835-100ML	125 ml (4.2 fl. oz.)	Bottle
835-1L	1 L (33.8 fl. oz.)	Bottle
835-4L	4L (1 gallon)	Jug

No Clean (NC) , VOC Free Flux

Leaded / Lead-Free Chemistries

MG Chemicals No Clean VOC-Free flux is a water-based, halide free flux, designed for the soldering of conventional and surface mount PCB assemblies. It is formulated to remain active after the chip wave, virtually eliminating the occurrences of solderballing.

- **Rapid wetting on virtually all types of substrates**
- **CFC Free**
- **VOC Free, Halide Free**
- **Remains active after the chip wave**
- **Bright, shiny solder joints**
- **Pin testable**
- **Virtually eliminates solder balls and bridging**
- **Bellcore GR-78-CORE Compliant**

Cat. Number	Size	Packaging
8351-125ml	125ml (4.2 fl oz.)	Bottle
8351-1L	1L (26 oz.)	Bottle
8351-4L	4L (1.1 gal)	Jug
8351-20L	20L (5.3 gal)	Pail
8351-55G	200L (55 gal)	Drum

No Clean (NC) Flux
Leaded / Lead-Free Chemistries

MG Chemicals unique mixture of high grade synthetic resin and thixotropic agents designed specifically for use with high temperature lead free and conventional Sn/Pb alloys. It provides the fluxing activity levels that promote fast wetting action and maximum wetting spread.

- **Excellent wettability**
- **No clean formula**
- **Non-corrosive, Non-conductive, Non-tacky residues**
- **Compatible with Lead free & Leaded Solder Systems**
- **Thixotropic paste**
- **Meets J-STD-004B**
- **RoHS compliant**

Cat. Number	Size	Packaging
8341-10ML	10ml (0.34 fl oz.)	Syringe

No Clean (NC) Flux, Halogen Free
Leaded / Lead-Free Chemistries

MG Chemicals unique mixture of high grade synthetic resin and thixotropic agents designed specifically for use with high temperature lead free and conventional Sn/Pb alloys. It provides the fluxing activity levels that promote fast wetting action and maximum wetting spread.

- **No Clean formula**
- **Halogen-free**
- **Excellent wetting**
- **Bright, shiny solder joints**
- **Low residue**
- **Rosin/Resin free**
- **Compatible with Lead-Free & Leaded Solder chemistries**
- **Meets Mil. spec. #RA 14256**
- **J-STD-004B compliant**
- **ROMI class, J Standard**

Cat. Number	Size	Packaging
836-P	10ml (0.34 fl oz.)	Pen
836LFNC-1L	1 L (33.8 fl. oz.)	Bottle
836LFNC-4L	4L (1.1 gal)	Jug

Water Soluble (WS) Flux
Leaded / Lead-Free Chemistries

MG Chemicals Lead-Free Water Soluble Flux is a neutral, water removable liquid soldering flux for conventional and surface mount PCB assemblies. The organic activating system in our Lead-Free Water Soluble Flux has a neutral pH at room temperature and becomes activated at soldering temperatures. It is formulated to be effective over a broad preheat range and may be used for both leaded and lead-free applications. As with all water-soluble fluxes, post-soldering cleaning is required. Residues can be easily removed with both hot and cold water, thus; no neutralizer is needed. De-ionized water should be used in the final rinse for cleanliness results beyond MIL-28809A.

- **Excellent wetting**
- **Bright, shiny solder joints**
- **Neutral pH**
- **Rosin/Resin free**
- **Compatible with Lead-Free & Leaded Solder chemistries**
- **Meets Mil. spec. #RA 14256**
- **J-STD-004B compliant**
- **ROMI class, J Standard**

Cat. Number	Size	Packaging
837-P	10ml (0.34 fl oz.)	Pen
837LFWS-1L	1 L (33.8 fl. oz.)	Bottle
836LFWS-4L	4L (1.1 gal)	Jug

FLUX REMOVERS

Removing flux is a two-step process. The first step is dissolving the flux. The second step is rinsing off the dissolved flux. The rinsing step is very important because after dissolving the flux it may appear that the solids in the flux have disappeared, but once the flux remover has evaporated away, the solids will re-deposit on the board as white residue.

Step 1: Dissolving the Flux

If you are using flux remover in aerosol form, spray a little flux remover onto the flux, then agitate with a hog hair cleaning brush. If you are using our 4140 Flux Remover, you may spray it liberally, as it is safe on your components. If you are using 413B Heavy Duty Flux Remover, you may spray it liberally on the solder side of the board, but be careful to only apply it directly to the flux contaminated area if you are using it on the component side of the board, as it will harm some components. The 4140 is plastic safe so it may be applied liberally. Have a can of 413B handy in case you run into a patch of burnt-on difficult to remove flux.
If you are using flux remover in liquid form, pour the flux remover into a tray. If you are using 4140 Flux Remover, you may then submerge the PC board into the tray, agitating the flux with a hog-hair brush. If you are using 413B Heavy Duty Flux Remover, you should not submerge the board into the tray, as the components will be damaged. Instead, wet the hog-hair brush you are using by dipping it into the tray, and then use it to agitate the flux on the board. Periodically rinse and re-wet the brush by swishing it in the flux remover.

Step 2: Rinsing the Board

You must ensure that you rinse off the dissolved solids completely before the flux remover evaporates and the solids re-deposit. If you are using flux remover in aerosol form, the easiest way to do this is to hold the board vertically and liberally apply more flux remover until you see the flux remover running off of the board. If you have dissolved the flux by submerging the board in liquid flux remover, just dip the board into the tray and swish the flux remover and you should be ok.

If you have been using the particular tray to dissolve flux on a number of boards, dissolved flux may accumulate in the tray and dipping the board may actually deposit flux solids onto the board. In this case you will want to either set up a separate tray for rinsing, or have an aerosol can handy for rinsing. A particularly good option for rinsing dissolved flux off of a board is to use our 406B Super Wash. Super Wash comes in a large aerosol can, allowing for liberal use, and it dries very rapidly. Super Wash will rinse off un-evaporated flux remover as well as flux solids, and almost immediately after rinsing your board, it will be dry and ready for service.

FLUX REMOVERS

MG Chemicals line of flux removers offers two formulas to dissolve and remove post-solder residue and other contaminants that remain on circuit boards after manufacturing, repair, or rework. Both work on most types of solder flux, rosin, non-rosin, no clean, and water soluble.

Flux removal is a two-step process. Step one is dissolving the flux, and step two is rinsing the dissolved flux off of the board, so it does not redeposit as white residue. Either of our flux removers can rinse as well as dissolve flux, however, our 406B makes an excellent choice for rinsing, because it is very fast drying and plastic safe. It will remove both the slower drying flux remover and the dissolved flux, producing a clean dry board in seconds, making an efficient flux removal process.

Heavy Duty Flux Remover

MG Chemicals heavy duty flux remover contains both Acetone and alcohols. It is specially formulated to dissolve and remove the most stubborn, encrusted, hard, baked-on fluxes and residues left on parts after soldering. It penetrates quickly to remove non-Ionic and ionic contaminants left on the non-component side circuit boards and can also work aggressively on isolated and hard to reach areas requiring spot cleaning. Offered in aerosol and liquid formats.

- **Extra strength, harmful on some plastics**
- **Quickly dissolves burnt on flux**
- **Fast evaporation**
- **Variable valve allows user to control rate of flow**

Cat. Number	Size	Packaging
413B-425G	425g (15fl oz.)	Aerosol
413B-1L	1L (33.8 fl. oz.)	Bottle
413B-4L	4L (1.1 gal)	Jug
413B-20L	20L (5 gal)	Pail

TIP TINNER

MG Chemicals Tip Tinner is a mixture of tin / silver/copper lead free solder powder and thermally stable, oxide-reducing compounds. Used to repair oxidized soldering tips for optimal performance and for extending the working life of new soldering tips by re-tinning or removing baked on residues and oxidation that accumulates on soldering tips when not in use.

- **Easy to use Effective at repairing oxidized iron tips**
- **Prolongs the life of new iron tips**
- **96.5% Tin / 3.0% Silver / 0.5% Copper**
- **RoHS Compliant**

Cat. Number	Size	Packaging
4910P-28G	28g (1 oz.)	Tin can

Flux Remover for PC Boards

MG Chemicals special blend of ethyl alcohol, isopropanol, and ethyl acetate. It is plastic safe, and widely used in the electronics industry to remove rosin, non-rosin, no clean fluxes. It is offered in Aerosol and liquid format.

- **Safe on plastics**
- **Moderate evaporation**
- **RoHS Compliant**
- **Low odor**
- **Zero residue**
- **Aerosol container variable valve allows user to control rate of flow**

Cat. Number	Size	Packaging
4140-P	10ml (0.34 fl. oz)	Pen
4140-400G	353ml (11.9 fl. oz.)	Aerosol
4140-1L	1L (33.8 fl. oz.)	Bottle
4140-4L	20L (1.1 gal)	Jug
4140-20L	20L (4.54 gal)	Pail

SOLDER PASTE

MG Chemicals solder pastes are formulated to provide superior connection between surface mount components and the copper traces of a printed circuit board. Our solder pastes are made of powdered virgin non-recycled metals blended with No Clean flux. Offered in Leaded (tin/lead) and Lead-Free tin/silver/copper formulations, they leave non-conductive, non-corrosive and highly insulated post soldering residues. Perfect for printed circuit board assembly and repair our pastes are available in convenient syringes or jars.

LEAD-FREE SOLDER PASTE

MG Chemicals Lead-Free Solder Paste provides high fluxing activity levels, promote thermal stability and prevent thermal degradation when reflowing under air atmosphere (normal). Since use of nitrogen is not required, our lead-free solder pastes provide excellent cost savings. They exhibit superior joint strength, excellent wettability, and extraordinary print definition and tack life. Our Lead-Free Solder Paste is offered in 25g syringes and 250g jars.

Sn/Ag/CU - No Clean (NC) Solder Paste

M.G. Chemicals No Clean Solder Paste is made from a blend of virgin high purity non-recycled Tin, Silver and Copper metal powdermixed with a No clean flux to form a paste. It is a lead-free, no clean, halogen-free solder paste designed specifically with robust flux activity and enhanced printing characteristics for ultra fine pitch applications. It provides an x-treme fluxing activity level with excellent wetting on copper OSP-coatings. Wide reflow process windows combined with high thermal stability yield solder joints with smooth surfaces.

In addition it offers repeatable, consistent printing characteristics combined with long stencil and tack life to accommodate high speed printing. This material yields excellent printing capabilities across various board designs and ultra-fine pitch down to 0.3mm pitch with excellent paste release to achieve brick like print results

- **No clean formula**
- **Enhanced print characteristics utilizing proprietary paste flux manufacturing techniques**
- **Non-corrosive**
- **Thermal stability**
- **Shiny and bright solder joints**
- **Low hard non-conductive-tacky residues**
- **Long Tack time**
- **Excellent wettability**
- **Suitable with air or nitrogen atmosphere**
- **Meets J-STD-005A**
- **Complies with RoHS Directive 2002/95/EC**
- **Melting point: 217 °C - 221 °C / 423 °C - 430 °F**

Cat. Number	Size	Packaging
4900P-25G	25g (0.88 fl oz.)	Syringe
4900P-250G	250g (9 oz)	Jar

LEADED SOLDER PASTE

MG Chemicals Leaded Solder Paste is a unique blend of low oxide, high purity solder powder with No Clean flux formulation. Designed for surface mount applications, our No-Clean Solder Paste will achieve high productivity and reduce production cost. Our leaded solder paste is offered in convenient 35g syringes and 250g jars.

Sn63/Pb37- No Clean (NC) Solder Paste

M.G. Chemicals No Clean Solder Paste is made from a blend of virgin high purity non-recycled Tin and Lead metal powder blended with a No Clean flux to form a paste. Designed for surface mount applications, it provides high tack force and good wettability. The post soldering transparent residues are non-conductive, non-corrosive and highly insulated. The name no clean refers to the fact that the flux residues are not harmful to assemblies and does not mean there will be no residues.

- **No clean formula**
- **Low residues**
- **Excellent wettability**
- **Non-corrosive flux residue**
- **Non-conductive flux residue**
- **J-STD-006C compliant**
- **Melting point: 183 °C / 361 °F**

Cat. Number	Size	Packaging
4860P-35G	35g (1.18 fl oz.)	Syringe
4860P-250G	1 L (33.8 fl. oz.)	Jar

DESOLDERING BRAIDS

M.G. Chemicals desoldering braids (wick) are made of clean, oxide-free copper wire and tight weave. They are specially designed to ease the replacement of electronic components and remove the extra solder without damaging the board or component(s). It is ideal for rework and repair of printed circuit boards found in a variety of electronics devices. Our Dieoldering braids are available in Type 'R', lead-Free or No clean and offered in a wide variety of lengths and widths. Static dissipative spools are available on 5' and on demand for all other sizes and packs of 10 5' spools are also available. Please see complete offering for details.

Fine Braid Super Wick 400 - LF Series

M.G. Chemicals Lead Free Super Wick LF series is formulated to remove high temperature, lead free solders. It is formulated with a No Clean flux designed for higher activation temperatures. It also works great with conventional tin/lead solders. It transfers heat to solder joints more quickly and efficiently than conventional wicks.

- **For lead free solder**
- **No Clean fluxes**
- **Transfers heat rapidly**
- **Static dissipative bobbins**
- **Meets J-STD-004 requirements**
- **Conforming to Bellcore specification GR-78-CORE (TR-TSY-000078), and IPC Test Method III**

Length	0.05" # 2 Yellow	0.075" #3 Green	0.1" #3 Blue
5 ft	424-LF	425-LF	426-LF

Fine Braid Super Wick 400 - NS Series

M.G. Chemicals Super Wick NS series are high quality desoldering braids made from high purity oxide-free copper formulated for the removal of leaded solders. A no Clean flux provides higher temperature activation which can also be used with lead-free solder chemistry. Its faster heat transfer properties allows for safer and quicker solder removal.

- **No Clean Super Wick**
- **Flux residue is non-conductive and non-corrosive**
- **ESD safe for all 1.5 m / 5 ft bobbins**
- **Flux residue remaining on board does not have to be cleaned**
- **High SIR-meets the requirements of both the Bellcore Spec. TR-TSY-000078 and IPC Test Method III**

Length	0.05" #2 Yellow	0.075" #3 Green	0.1" #4 Blue
5 ft	424-NS	425-NS	426-NS
50 ft	-	453-NS	454-NS

Fine Braid Super Wick 400 Series

The MG 4xx series Super Wick Fine Braids are high quality desoldering braids that were precision cleaned and produced with up-to-date and environmentally friendly processes and technology. The oxide-free high purity copper conducts heat fast, allowing for faster wicking and shorter dwell times that minimize possible overheating damages. It uses pure type 'R' resin flux conforming to all the requirements of MIL-F-14256F, Type 'R' and ANSI/J-STD-004. It leaves an environmentally safe residue. In short, it is a cleaner, faster and more consitent disoldering braid.

- **Reactive Flux core (R)**
- **High Purity, Oxide-free copper**
- **Works with leaded lead free chemistry**
- **Environmentally and PCB safe residues**
- **ESD (Electrostatic Dissipative) Safe for 1.5 m [5 ft]**
- **Manufactured under SPC guidelines**
- **Conforms to MIL-F-14256F**
- **ANSI/J-STD-004 compliant**

Length	0.025" #1 White	0.05" Yellow	0.075" Green	0.1" Blue	0.125" Brown
5 ft	423	424	425	426	427
25 ft		442	443	444	
50 ft		452	453	454	
100 ft		462	463	464	
5 ft - 10 pack		425-10	425-10	426-10	427-10

INDUSTRY STANDARDS AND REQUIREMENTS

The eletronics industry has set three joint standards to prescribe the requirements and test methods for soldering material used in their industry. These standards are J-STD-004, J-STD-005 and J-006.

J-STD-004

The J-STD-004 standard prescribes general requirements for the classification and characterization of fluxes for high quality solder interconnections. It is used for quality control and procurement purposes.

This standard classifies and characterizes tin/lead and lead-free soldering flux materials for use in electronic metallurgical interconnections for printed circuit board assembly. Soldering flux materials include the following: liquid flux, paste flux, solder paste, solder cream as well as flux-coated and flux-cored solder wires and preforms. It is not the intent of this standard to exclude any acceptable flux or soldering material; however, these materials must produce the desired electrical and metallurgical interconnection.

J-STD-005

The J-STD-005 standard prescribes general requirements for the characterization and testing of solder pastes used to make high quality electronic interconnections. This specification is a material quality control document and is not intended to relate directly to the material's performance in the assembly process. Solder paste users are referred to 6.3 for a listing of requirements information and options that should be addressed when procuring solder paste.

This standard defines the characteristics of solder paste through the definitions of properties and specification of test methods and inspection criteria. The materials include solder powder and solder paste flux blended to produce solder paste. Solder powders are classified by the shape of the particles and size distribution of the particles. It is not the intent of this standard to exclude particle sizes or distributions not specifically listed.

J-STD-006

The J-STD-006 standard prescribes the nomenclature, requirements and test methods for electronic grade solder alloys; for fluxed and non-fluxed bar, ribbon, wire, and powder solders, for electronic soldering applications; and for "special form" electronic grade solders. This is a quality control standard and is not intended to relate directly to the material's performance in the manufacturing process.

RoHS

RoHS stands for Restriction of Hazardous Substances. RoHS, also known as Directive 2002/95/EC, originated in the European Union and restricts the use of six hazardous materials found in electrical and electronic products. All applicable products in the EU market after July 1, 2006 must pass RoHS compliance. RoHS impacts the entire electronics industry.

The substances restricted under the RoHS directive include lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (CrVI), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).

Any business that sells applicable electrical or electronic products, sub-assemblies or components directly to RoHS countries, or sells to resellers, distributors or integrators that in turn sell products to these countries, is impacted if they utilize any of the restricted materials.

With the exception of our Leaded Solder Wires, MG Chemicals does not produce any products containing any of the six substances controlled by RoHS.

For more information on the above regulatory issues, please visit the Compliance Center on our website for more details.

SOLDER WIRE QUICK SELECTOR

Cat. Number	Alloy	Flux Type	Flux Core %	Diameter	Size	Gauge	Softening Point	Melting Range
4884-227g	Sn63 / Pb37	RA	2.2	0.635mm (0.025”)	1/2 lb (227g)	23	80 °C / 176 °F	183 °C / 361 °F
4884-454g	Sn63 / Pb37	RA	2.2	0.635mm (0.025”)	1 lb	23	80 °C / 176 °F	183 °C / 361 °F
4885-227g	Sn63 / Pb37	RA	2.2	0.081mm (0.032")	½ lb (227g)	22	80 °C / 176 °F	184 °C / 361 °F
4885-454g	Sn63 / Pb37	RA	2.2	0.081mm (0.032")	1 lb (454g)	22	80 °C / 176 °F	185 °C / 361 °F
4886-227g	Sn63 / Pb37	RA	2.2	1.016mm (0.04”)	½ lb (227g)	20	80 °C / 176 °F	186 °C / 361 °F
4886-454g	Sn63 / Pb37	RA	2.2	1.016mm (0.04”)	1 lb (454g)	20	80 °C / 176 °F	187 °C / 361 °F
4887-227g	Sn63 / Pb37	RA	2.2	1.27mm (0.05”)	½ lb (227g)	18	80 °C / 176 °F	188 °C / 361 °F
4887-454g	Sn63 / Pb37	RA	2.2	1.27mm (0.05”)	1 lb (454g)	18	80 °C / 176 °F	188 °C / 361 °F
4888-227g	Sn63 / Pb37	RA	2.2	1.57mm (0.062”)	½ lb (227g)	16	80 °C / 176 °F	188 °C / 361 °F
4888-454g	Sn63 / Pb37	RA	2.2	1.57mm (0.062”)	1 lb (454g)	16	80 °C / 176 °F	188 °C / 361 °F
4880-18g	Sn63 / Pb37	RA	2.2	0.081mm (0.032")	18g (0.6 oz)	22	80 °C / 176 °F	188 °C / 361 °F
4860-18g	Sn63 / Pb37	No Clean	2.2	0.081mm (0.032")	78g (0.06oz)	22	75 °C / 167 °F	188 °C / 361 °F
4865-227g	Sn63 / Pb37	No Clean	2.2	0.081mm (0.032")	½ lb (227g)	22	75 °C / 167 °F	188 °C / 361 °F
4865-454g	Sn63 / Pb37	No Clean	2.2	0.081mm (0.032")	1 lb (454g)	22	75 °C / 167 °F	188 °C / 361 °F
4866-227g	Sn63 / Pb37	No Clean	2.2	1.016mm (0.04”)	½ lb (227g)	20	75 °C / 167 °F	188 °C / 361 °F
4894-227g	Sn60/Pb40	RA	2.2	0.635mm (0.025”)	½ lb (227g)	23	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4894-454g	Sn60/Pb40	RA	2.2	0.635mm (0.025”)	1 lb (454g)	23	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4895-227g	Sn60/Pb40	RA	2.2	0.081mm (0.032")	½ lb (227g)	22	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4895-454g	Sn60/Pb40	RA	2.2	0.081mm (0.032")	1 lb (454g)	22	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4896-227g	Sn60/Pb40	RA	2.2	1.016mm (0.04”)	½ lb (227g)	20	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4896-454g	Sn60/Pb40	RA	2.2	1.016mm (0.04”)	1 lb (454g)	20	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4897-227g	Sn60/Pb40	RA	2.2	1.27mm (0.05”)	½ lb (227g)	18	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4897-454g	Sn60/Pb40	RA	2.2	1.27mm (0.05”)	1 lb (454g)	18	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4898-227g	Sn60/Pb40	RA	2.2	1.57mm (0.062”)	½ lb (227g)	16	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4898-454g	Sn60/Pb40	RA	2.2	1.57mm (0.062”)	1 lb (454g)	16	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4890-18g	Sn60/Pb40	RA	2.2	0.081mm (0.032")	18g (0.6 oz)	22	80 °C / 176 °F	183 °C - 190 °C / 361 °F - 374 °F
4870-18g	Sn60/Pb40	No Clean	2.2	0.081mm (0.032")	78g (0.06oz)	22	75 °C / 167 °F	183 °C - 190 °C / 361 °F - 374 °F
4875-227g	Sn60/Pb40	No Clean	2.2	0.081mm (0.032")	½ lb (227g)	22	75 °C / 167 °F	183 °C - 190 °C / 361 °F - 374 °F
4875-454g	Sn60/Pb40	No Clean	2.2	0.081mm (0.032")	1 lb (454g)	22	75 °C / 167 °F	183 °C - 190 °C / 361 °F - 374 °F
4876-227g	Sn60/Pb40	No Clean	2.2	1.016mm (0.04”)	½ lb (227g)	20	75 °C / 167 °F	183 °C - 190 °C / 361 °F - 374 °F
4877-227g	Sn60/Pb40	No Clean	2.2	1.27mm (0.05”)	1 lb (454g)	18	75 °C / 167 °F	183 °C - 190 °C / 361 °F - 374 °F

Cat. Number	Alloy	Flux Type	Flux Core %	Diameter	Size	Gauge	Softening Point	Melting Range
4900-35g	Sac 305	No Clean	2.2	0.081mm (0.032")	17g (0.06oz)	21	75 °C / 167 °F	217 °C - 221 °C / 422 °F- 426 °F
4900-112g	Sac 305	No Clean	2.2	0.081mm (0.032")	1/4 lb (113g)	21	75 °C / 167 °F	217 °C - 221 °C / 422 °F- 426 °F
4900-227g	Sac 305	No Clean	2.2	0.081mm (0.032")	½ lb (227g)	21	75 °C / 167 °F	217 °C - 221 °C / 422 °F- 426 °F
4900-454g	Sac 305	No Clean	2.2	0.081mm (0.032")	1 lb (424g)	21	75 °C / 167 °F	227 °C - 221 °C / 422 °F- 426 °F
4901-112g	Sn99	No Clean	2.2	0.081mm (0.032")	¼ lb (113g)	21	75 °C / 167 °F	227 °C - 440 °F
4901-227g	Sn99	No Clean	2.2	0.081mm (0.032")	½ lb (227g)	21	75 °C / 167 °F	227 °C - 440 °F
4901-454g	Sn99	No Clean	2.2	0.081mm (0.032")	1 lb (454g)	21	75 °C / 167 °F	227 °C - 440 °F
49500-454g	Sn100e	No Clean	3.3	0.081mm (0.032")	1 lb (454g)	N/A	75 °C / 167 °F	228 °C - 442 ° F
49500WS-454g	Sn100e	Water Soluble	3.3	0.081mm (0.032")	1 lb (454g)	N/A	60 °C / 140 °F	228 °C - 442 °F

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