

# ***OPERATING INSTRUCTIONS***

Amtec Hydraclamp High Pressure Grease Handpumps



## **Contents**

<b>Introduction</b>	<b>4</b>
Safety Warning	4
Proper Use	4
Operator's Obligations	4
Basic Safety Instructions	5
Safety And Danger Symbols	5
Safety Instructions For The Use Of This Product	6
Maintenance, Service And Troubleshooting	6
Warranty And Liability	7
<b>Designations Of The Components Shown</b>	<b>8</b>
Operation	10
Assembly/Installation	11
Directions For Use	11
<b>Operating Instructions</b>	<b>12</b>
Connecting	12
Applying Pressure	12
Disconnecting	12
Packing, Transport And Storage	13
Transport Damages	13
Storage	13

<b><i>Troubleshooting</i></b>	<b>14</b>
Designations Of The Components Shown	14
No Or Low Pressure	15
Training Of Personnel	16
Customer Service/Support	16
Production	17
Drawings And Replacement Parts	17
Safety Data Information For Amtec Hydraclamp	17
<b><i>Chemical Use and Restrictions</i></b>	<b>18</b>
Recommended Use Of The Chemical And Restrictions On Use	18
Potential Health Effects	18
Composition	18
First Aid Measures	18
Firefighting Measures	19
Accidental Release Measures	19
Handling And Storage	20
Personal Protective Equipment	20
<b><i>Publisher's Copyright</i></b>	<b>21</b>
<b><i>Re-Sale</i></b>	<b>21</b>

## ***Introduction***

### ***Safety Warning***

Read this Instruction manual through carefully in order to familiarize yourself with the safe and efficient operation of Amtec handpumps. Keep this handbook for reference purposes. This Instruction manual contains important instructions, SDS and directives for the safe and proper operation of the product. It should also help operating and maintenance personnel to minimize danger, repair costs and down time, and increase the reliability and operational life of the product. It is important to assure at all times access to this document to everyone who is assigned with operation of this handpump.

### ***Proper Use***

The handpump may only be used in the operational conditions for which it is designed. Any use that goes beyond this is deemed improper. Amtec is not liable for any damages resulting from improper use. Also included in proper use are:

- Observing and following all instructions and warnings in this Operating Instructions Guide.
- Completion of inspection and maintenance work as scheduled.

### ***Operator's Obligations***

The party responsible for the safety of the product must ensure that:

- Only qualified personnel are assigned to operate this handpump and the machinery it pressurizes.
- These persons have the Instruction manual at hand during all of their work and are required to follow it consistently.
- The rules and regulations for the prevention of accidents that apply at the site of use are followed and that the scheduled service and maintenance is completed on time.
- For more information on service, parts or instructions, contact Amtec Hydraclamp or your local distributor.

## **Basic Safety Instructions**

For the safe handling and smooth operation of this handpump, you must heed the following:

- The pump may not be used for purposes for which it was not designed.
- No modifications may be made to the handpump.
- Safe operating conditions must be assured at all times. On request, we will hold a training session for the device in order to provide your personnel with the knowledge they need.
- All lines, hoses and screw connections need to be checked for tightness regularly and for externally visible damage. Any damage must be immediately repaired by technicians and if needed replaced with original parts.

## **Safety and Danger Symbols**



### **WARNING: DANGEROUS LOCATION**

Warnings are information about dangers that can lead to bodily injuries and/or property damage.



### **RISK OF CRUSHING**

Warning against risk of crushing.



### **INSTRUCTION**

The instruction symbols give you valuable and tips on operation.



### **ENVIRONMENTAL HAZARDS**

Protect the environment by properly disposing of the various materials or assuring they are properly transported to disposal.

## ***Safety Instructions for the Use of this Product***

All parts and assembly groups have been developed and constructed in accordance with the recognized rules of safety engineering. However, if it is handled or operated improperly, this can result in danger to the user or others, or hazards to the pump or machinery. The pump must only be used:

- For its intended purposes.
- In a proper condition in terms of its safety engineering features.

## ***Maintenance, Service and Troubleshooting***

- Your Amtec Hydraclamp handpump is highly reliable and long lasting when properly maintained.
- Inform the operating personnel prior to any calibration or maintenance work.
- Turn off the main switch (if there is one).
- Pneumatic and/ or hydraulic systems must be depressurized.
- Check all screw connections and armatures for proper fit.
- Once all work is completed check all safety equipment and operational functions.

## **Warranty and Liability**

1-year warranty and liability claims are excluded in cases of personal injury and property damage if they derive from one or more of the following causes:

- Improper use of the product.
- Work completed by unqualified persons.
- Improper transportation, storage, assembly, operational start-up, operation and maintenance of the product.
- Failure to heed the instructions in the Instruction Manual regarding safety, transport, storage, assembly, operation, operational start-up, maintenance and equipping the product.
- Operating the product if safety equipment is defective or not properly installed, or if the safety and protective equipment is not functional.
- Structural modifications to the product.
- Changing the pressure ratios in the pressure safety and operating at pressures higher than those for which the product is designed.
- Improper inspection of the abrasion from mechanical parts
- Inappropriate repairs and usage of foreign material



### **CAUTION**

Any and all work on the product may only be carried out when it is idle.



### **ENVIRONMENTAL HAZARDS**

The various materials/liquids are to be handled properly and separately disposed of in compliance with the applicable national regulations.

## Designations of the Components Shown

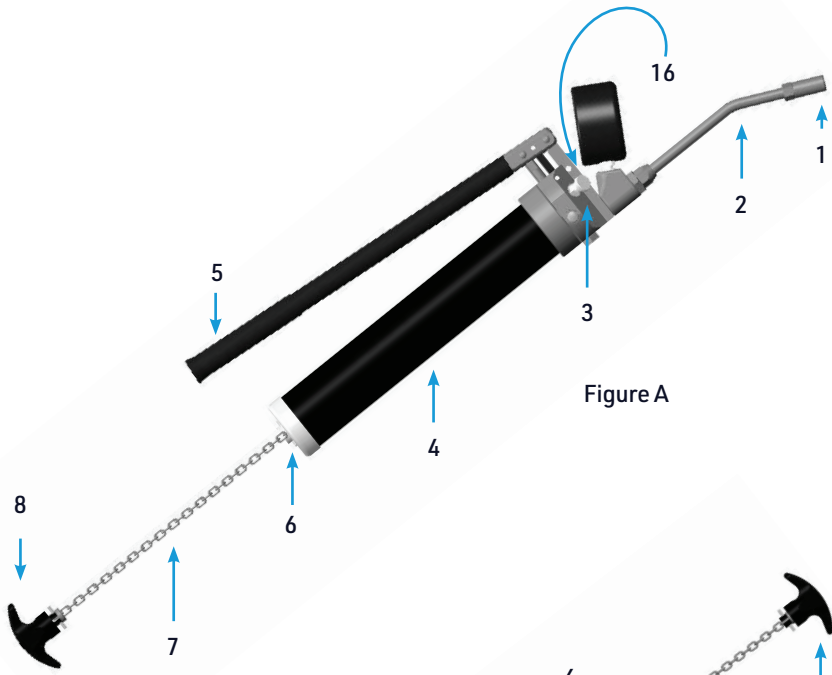


Figure A

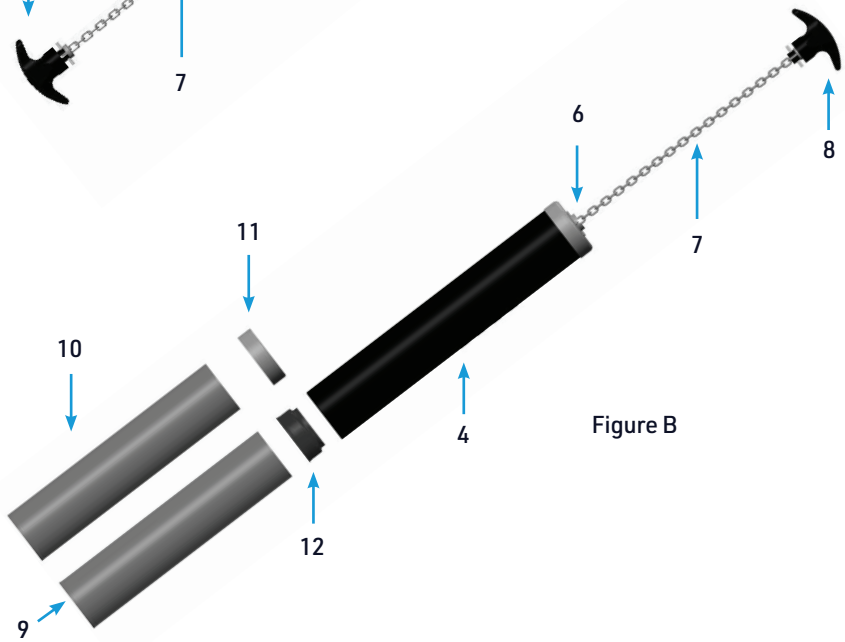


Figure B



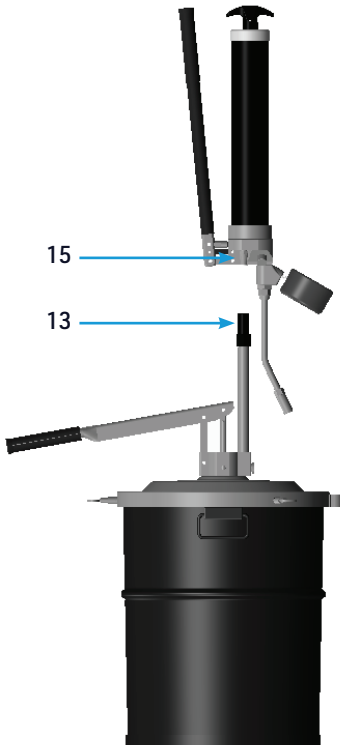


Figure C

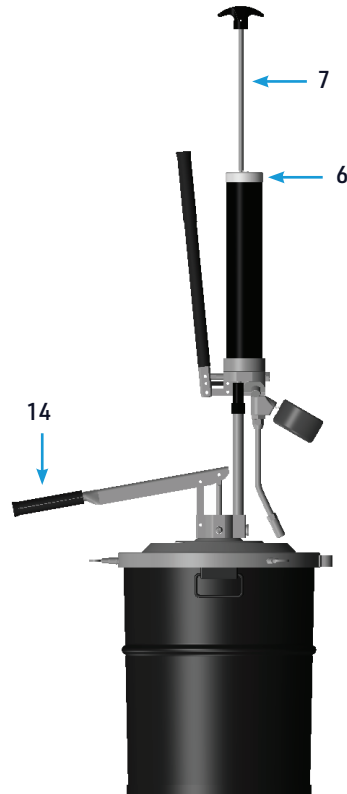


Figure D

- |                                       |  |
|---------------------------------------|--|
| 1. F-Coupler                          | 9. Metal pull tab                        |
| 2. Rigid pump tube/high-pressure hose | 10. Cartridge                            |
| 3. Air bleed valve                    | 11. Plastic cover                        |
| 4. Barrel                             | 12. Red plastic follower                 |
| 5. Actuating lever                    | 13. Filler coupler (dispensing system)*  |
| 6. Locking notch                      | 14. Actuating lever (dispensing system)* |
| 7. Chain or piston rod                | 15. Filler nipple                        |
| 8. Handle                             | 16. Black thumb screw (opposite side)    |
- \*Not included in the scope of delivery

## **Operation**

Filling (**Note: New pump kits come filled with grease**)

1. Clamp the pump head in a bench vice or hold firmly on the table.
2. Pull back the handle completely (No. 8) and engage the chain or rod into the locking groove (No. 6).
3. Unscrew the barrel (cylinder) (No. 4) from the pump head.
4. Remove empty cartridge with pliers and dispose (No. 10).
5. Remove the plastic protective cap from the new grease tube and dispose (No. 11).
6. For chain type pumps only, install the red follower seal into the open tube with the cup facing inward (No. 12).
7. Insert the open end of the grease cartridge into the barrel (No.4).
8. Pull the metal tab from the new grease cartridge and dispose (Not shown).
9. Reinstall the grease-charged barrel into the pump head, threading only hand tight.
10. Open the air bleed valve (No. 3).
11. Release the chain or piston rod (No. 7) from the locking position and feed it back into the cylinder.
12. Squeeze the handpump lever (No. 5) several times until grease flows smoothly from the pump, ensuring the black thumb screw is closed.
13. Close the air bleed valve (No. 3).
14. Enjoy the industry's best high pressure handpump.

With dispensing system (configuration with rod-type only):

1. Press filler nipple (No. 15) of the handpump against the filler coupler (No. 13) of the dispensing system.
2. Pump the handle (No. 14) evenly to fill the handpump. When the locking notch (No. 6) on the piston rod (No. 7) is visible, stop pumping.
3. Open the air bleed valve (No. 3) and pump the handle (No. 5) until grease comes out constantly, then close the air bleed valve once again.
4. Slide the piston rod back inside the barrel.
5. Enjoy the industry's best high pressure handpump.

## Assembly/Installation

This high pressure handpump must only be used for its intended purpose with consideration to the following:

- Applicable health and safety measures from your municipal, state, province or federal jurisdiction are observed and adhered to.

The operation and storage in chemically aggressive or outdoor/humid environments, may lead to corrosion damage.

## Directions for use

Your Amtec handpump kit comes complete with the following components

- Chain- or rod-type high pressure handpump (# 112.100.100-XXX or 112.110.110-XXX)
- 600mm flexible extension with F-Coupler (# 676.109.044-103-C)
- 160mm rigid extension with F-Coupler (# B35499.01-49)
- Three (3) red plastic follower seals – one installed, two spare (# K83576-22, chain only)
- Three (3) 400ml grease cartridges – one installed, two spare (# 801.200.002)

First secure the pump head and then screw either the flexible or rigid extension into the end of the pump. Do not attempt to attach an F-Coupler to the pump outlet port; only use the supplied flexible or rigid extension.



### **DANGER**

Filling with high-pressure lubrication systems is prohibited due to the risk of bursting. This could lead to severe damage to property, serious physical injuries or death.



### **NOTE**

Avoid filling by hand if possible.  
This can lead to air pockets and inconsistent performance.

# Operating Instructions

## Connecting

1. Fix the pump's F-Coupler onto the high pressure F-Nipple of your Amtec clamping device. Ensure the F-Nipple and F-Coupler tip is free from contamination (wipe clean, if required)!
2. Ensure the air release screw is closed.

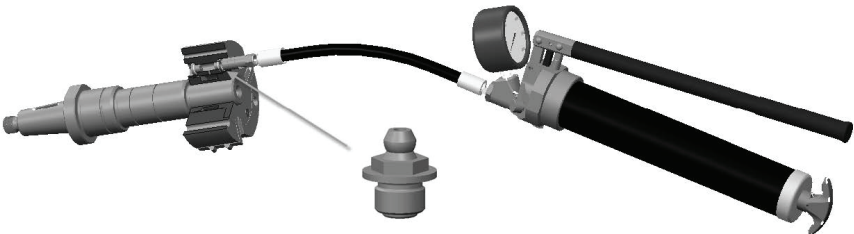
## Applying pressure

3. Pump the lever until the gauge indicates desired pressure setting (contact Amtec Hydraclamp for a information on how much force your hydraulic clamp is capable of at a given pressure).
4. For safety, the handpump is included with an internal pressure relief valve.

## Disconnecting

5. You must adhere to this procedure to prevent damage to your F-Nipple, F-Coupler or both.
6. Turn the black pressure release thumb screw half a turn to the left (CCW) to allow grease to exhaust back into the reservoir, being sure not to unscrew it completely. Be sure the pressure gauge drops to zero.
7. Remove F-Coupler from the F-Nipple using a slight turn motion.
8. Close the black thumb screw.

For more information on using Amtec F-Nuts, Bloc Nuts, or other clamping devices using our high pressure handpumps, visit our website: [amtechydraclamp.com](http://amtechydraclamp.com).



## ***Packing, Transport and Storage***

Our handpumps are safely prepared and packaged by Amtec Hydraclamp in our facility. Our handpump box makes a perfect storage location for your pump, but be sure not to stack other products on top. The cardboard box and its content must be protected from moisture. Maintain storage and shipping temperature between  $-20^{\circ}\text{C}$  and  $+40^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$  to  $+104^{\circ}\text{F}$ ).

## ***Transport Damages***

If transport damages are discovered during the inspection of incoming goods, this procedure must be followed:

- Inform delivering party (freight carrier, etc.)
- Make record of damages
- Inform your distributor, or Amtec directly (if purchased in Canada)

## ***Storage***

The operation and storage in chemically aggressive or outdoor/humid environments, may lead to corrosion damage. The storage temperature must be kept from  $-20^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$  to  $+104^{\circ}\text{F}$ ).

## Troubleshooting

Figure A

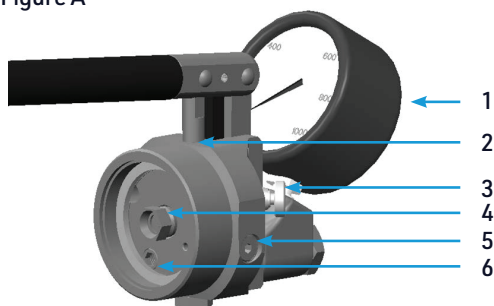
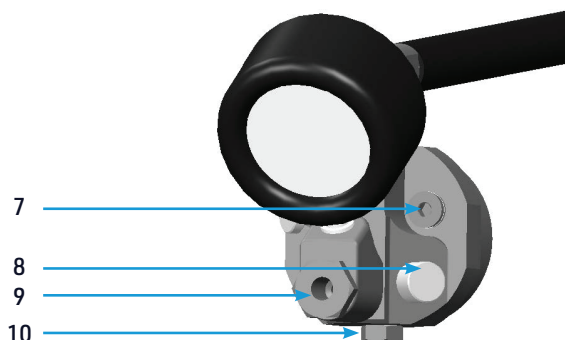


Figure B



### **Designations of the components shown**

1. Pressure gauge (N83750-8-CW for 0-1000 bar.  
N83751-8-CW for 0-600 bar. N83752-8-CW for 0-400 bar)
2. Pressure piston (factory serviced only)
3. Air release valve (35591.00)
4. Inlet valve (B38256.01-1)
5. Pressure setting screw
6. Backflow valve
7. Screw plug
8. Black thumb screw for pressure release (715.112.100.42)
9. Connection to the high pressure hose or rigid coupler
10. Check valve (715.112.100.31)



### CAUTION

Repair of any of the faults described below may only be carried out by a trained technician.

## No or Low Pressure:

Symptom / Check	Cause	Solution
Handle moves freely with no pressure build.	Check if black thumb screw (No.8) is closed.	Close thumb screw (No.8).
Retraction handle is difficult to pull (chain or rod).	Grease cartridge empty.	Insert new cartridge (see filling instructions).
Pumping action is spongy.	The handpump reservoir was "packed" by hand, trapping air bubbles in the grease. or Air otherwise contaminated the grease accidentally.	Bleed all air out; open release valve(No.3) and pump until clear. Close release valve when grease flows continuously. If the problem persists, replace cartridge as per filling instructions.
Pump will only achieve low pressure.	Pressure relief valve (No.8) and/or air release valve (No.3) leaks or is dirty.	Dismantle and clean valve. If necessary, replace the valve. If necessary, return to Amtec for repair.
No grease flows.	Suction valve (No.4) leaks or is dirty.	Dismantle and clean valve. If necessary, return to Amtec for repair.
Lever bounces back.	Check valve (No.10) is dirty.	Dismantle and clean valve. If necessary, replace it or return to Amtec for repair.
Grease leaks from behind the piston seal. (Figure B/No. 11)	Defective follower seal or facing the wrong way.	Replace red plastic follower (K83576-22).
Cartridge empty after short time.	Non-standard grease cartridge. Grease leaks between cylinder and cartridge. Or the sealing member is not used.	Use quality cartridges. Ensure the red plastic follower (K83576-22) is installed.

Symptom / Check	Cause	Solution
Pressure decays or clamp does not hold pressure.	Back flow valve (No.6) or thumb screw (No. 8) is dirty	Dismantle valve, clean valve seat and ball. If necessary, replace valve and ball ( # 715.112.100.31) or black thumbscrew (# 715.112.100.42)
Grease leaks at the following locations.	Leakage between:	
	Hose and swivel connector or hose and valve head.	Replace copper sealing ring. Tighten bolt connection. Replace copper rotation ring. Seal with Loctite 601.
	Defective seal on pressure gauge.	Replace O-Rings.
	Defective seal on swivel pin (No.9).	Best replace all four O-Rings.
	F-Nipple on clamp or nut is leaking.	Replace F-Nipple (# 710.101.005).

## ***Training of Personnel***

Only trained personnel who have read and understood all points of the Operating Manual may work on the product. Likewise, the individual operating conditions must be understood, and the related safety requirements must be known and adhered to. Personnel undergoing training may only work on the product under the supervision of qualified personnel.

## ***Customer Service/Support***

**Amtec Hydraclamp Inc.**

1175 Corporate Dr., Unit 1  
Burlington, Ontario L7L 5V5 Canada

Tel. +1 (905) 335-8233

Fax +1 (905) 335-6074

E-mail [inquiries@amtechydraclamp.com](mailto:inquiries@amtechydraclamp.com)

Internet [www.amtechydraclamp.com](http://www.amtechydraclamp.com)



## ***Production***

Interruptions: In the event of production interruptions (overnight, weekend or during maintenance), release the clamping tension of the hydraulic nut or clamp. To do this, attach the handpump and open the black pressure release thumb screw.

## ***Drawings and Replacement Parts***

Accessories, drawings, dimensioning sheets, data sheets and replacement parts can be obtained by contacting Amtec Hydraclamp or your local distributor.



### ***ENVIRONMENTAL HAZARDS***

The various materials/liquids are to be handled properly and separately disposed of in compliance with the applicable national regulations.

## ***Safety Data Information for Amtec Hydraclamp 801.200.002 grease cartridges:***

### **Brand:**

Petro-Canada PEERLESS™ OG2

### **Manufacturer Details:**

Petro-Canada Lubricants Inc.

2310 Lakeshore Rd. West

Mississauga, Ontario L5J 1K2 Canada

+1 (905) 403-6785 (Emergency Telephone Number: +1 (800) 424-9300)

## ***Chemical Use And Restrictions***

### ***Recommended use of the chemical and restrictions on use:***

Peerless OG Greases are calcium sulfonate thickened greases designed for high temperature multipurpose automotive and industrial applications such as chassis, bearings, and oven conveyors.

For complete SDS Sheet on Amtec 801.200.002 (PEERLESS™ OG2) grease, please visit: [lubricants.petro-canada.com/sds](http://lubricants.petro-canada.com/sds)

**WARNING:** This handpump may have installed in it grease of unknown origin. Please ensure you take all precaution to locate the Safety Data Sheet of the installed grease. If you install grease other than Amtec Hydraclamp 801.200.002 PEERLESS™ OG2, ensure you obtain and make available the Safety Data Sheet for all users of this handpump.

### ***Potential Health Effects:***

Primary Routes of Entry: Eye Contact, Ingestion, Inhalation and Skin Contact.

Not a hazardous substance or mixture.

No component of this product present at levels greater than or equal to 0.1% is identified as probably, possible or confirmed human carcinogen by both IARC and ACGIH.

### ***Composition:***

**Contains:** petroleum distillates (both solvent-refined heavy paraffinic and solvent-dewaxed heavy paraffinic), calcium carbonate, calcium dodecylbenzenesulphonate, sulfonic acids, petroleum and calcium salts, Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts, Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts and bis(nonylphenyl)amine.

### ***First Aid Measures:***

**If inhaled:** Move to fresh air. Artificial respiration and/or oxygen may be necessary. Seek medical advice.

**In case of skin contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser.

Wash clothing before reuse. Seek medical advice. In the event of a known, or potential, high pressure injection injury, worker should obtain immediate medical evaluation.

**In case of eye contact:** Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention. If swallowed : Rinse mouth with water. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Seek medical advice.

### ***Firefighting Measures:***

**Suitable extinguishing media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media:** No information available.

**Specific hazards during firefighting:** Cool closed containers exposed to fire with water spray.

**Hazardous combustion products:** Carbon oxides (CO, CO<sub>2</sub>), smoke and irritating vapours as products of incomplete combustion.

**Further information:** Prevent fire extinguishing water from contaminating surface water or the ground water system.

### ***Accidental Release Measures:***

**Personal precautions, protective equipment and emergency procedures:**

Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas.

Material can create slippery conditions. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene.

**Environmental precautions:** Do not allow uncontrolled discharge of product into the environment.

**Methods and materials for containment and cleaning up:** Prevent further leakage or spillage if safe to do so. Remove all sources of ignition. Soak up with inert absorbent material. Non-sparking tools should be used. Ensure adequate ventilation. Contact the proper local authorities.

## ***Handling And Storage:***

**Advice on protection against fire and explosion:** None known.

**Advice on safe handling:** For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Keep away from heat and sources of ignition. Keep container closed when not in use.

**Conditions for safe storage:** Store in original container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers. To maintain product quality, do not store in heat or direct sunlight.

## ***Personal Protective Equipment:***

**Respiratory protection:** Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Filter type:** Organic vapour filter

**Hand protection Material:** Neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R).

**Remarks:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Eye protection:** Wear face-shield and protective suit for abnormal processing problems.

**Skin and body protection:** Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

**Protective measures:** Wash contaminated clothing before re-use.

**Hygiene measures:** Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash face, hands and any exposed skin thoroughly after handling.

## ***Publisher's Copyright***

This document may only be reproduced, translated or made accessible to third parties with the expressed consent of the Amtec Hydraclamp.

## ***Re-Sale***

This instruction manual is a component of the product and belongs in the scope of delivery in the event of re-sale.



## ***Customer Service/Support***

**Amtec Hydraclamp Inc.**

1175 Corporate Dr., Unit 1

Burlington, Ontario L7L 5V5 Canada

Tel. +1 (905) 335-8233

Fax +1 (905) 335-6074

E-mail [inquiries@amtechydraclamp.com](mailto:inquiries@amtechydraclamp.com)

Internet [www.amtechydraclamp.com](http://www.amtechydraclamp.com)



## ***Customer Service/Support***

**Amtec Hydraclamp Inc.**

1175 Corporate Dr., Unit 1

Burlington, Ontario L7L 5V5 Canada

Tel. +1 (905) 335-8233

Fax +1 (905) 335-6074

E-mail [inquiries@amtechydraclamp.com](mailto:inquiries@amtechydraclamp.com)

Internet [www.amtechydraclamp.com](http://www.amtechydraclamp.com)