



UNITED SOLUTIONS

SIMPLIFIED, INNOVATIVE, SUSTAINABLE, TECHNICAL SOLUTIONS

PLASMA CUTTERS

UNITED SOLUTIONS

Simplified, Innovative, Sustainable, Technical Solutions

United Solutions Industrial Services is a Saudi company, that is committed to bringing Simplified, Innovative, Sustainable, Technical Solutions to its customers in the Kingdom of Saudi Arabia and beyond. In this regard, we have partnered with **Chammas Plasma Cutters LLC**, a Houston based company, to bring its groundbreaking plasma cutters and perforators to our valued and distinguished customers in KSA.

Chammas Plasma Cutters LLC was founded in 2020 with the intent of creating an alternative option to cut stuck oilfield tubulars. With over 100 years of combined experience in the pipe recovery industry, Chammas Plasma Cutters LLC strives to provide its customers with high quality equipment along with unmatched customer service. Together, United Solutions and Chammas teams have the local experience and knowledge to assist with technical support, safety guidelines, & logistics. We take great pride in the work we do and thank you for the opportunity to earn your business.



Without the right tools and wealth of pipe recovery expertise in your back pocket, it is difficult to be prepared for the unexpected while losing crucial rig time in the process.

Be equipped with the Chammas Plasma Cutter (CPC) to help alleviate any downhole stuck pipe problems. Chammas Plasma Cutters, LLC. strives to provide customers with excellent products at competitive pricing. With over 100 combined years of experience, we provide customers the support necessary for guaranteed satisfaction through the combination of dedicated technical team with the latest equipment and pioneering technology. We offer 24hr technical support along with comprehensive training for field personnel regarding safety guidelines and technical application.

Designed with varying well conditions in mind, the CPC provides wireline operators the assurance to deploy our tool in the harshest of well conditions. The CPC is rated up to 15,000 psi & 400F. Chammas also offers a self-anchoring tool that can operate even when the tubing and annulus are not balanced. Another advantage of Chammas' plasma cutter is there are no moving parts, making our tool more reliable. Complex design yet simple assembly makes this product the ideal choice when cutting stuck pipe.

Tool Sizes

CPC/CPP Size	Pipe Size
7/8"	1 1/2" & 1 3/4" CT
1 1/4"	2" CT & 2 3/8" TBG
1 1/2"	2 3/8", 2 5/8", & 2 7/8" TBG
1 1/2" CW	3 1/2" TBG
2"	3 1/2" & 4" TBG
2" CW	4 1/2" CSG
2 1/2"	4 1/2" CSG & 5" CSG/DP
2 1/2" CW	5" CSG/DP & 5 1/2" CSG/DP
3 1/2"	5 1/2" CSG/DP

CW = undersized cutter



6 3/8" CSG 0.31" wall cut using a 3" CPC
(6/2024)



No flare or enlargement damage to the cut pipe, eliminating the need for milling

Tubing puncher average entry hole 1/2" - 7/8" diameter. 3 or 4 holes per puncher

Undersized cutters for small restrictions

SAVE RIG TIME

1 less run in the hole
when using Chammas'
self-anchoring tool



HARSH WELL CONDITIONS

Rated up to 15kpsi/400F,
performs in any fluid type /
weight, cuts all grades of pipe



MORE THAN 30 YEARS

providing unmatched training
and technical support



EASY TO SHIP

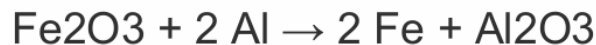
DOT approved as
flammable solid, making
it easier to ship
compared to explosives



HOW THE CHAMMAS PLASMA CUTTER WORKS

Thermite is a pyrotechnic composition of metal powder and metal oxide. When ignited by heat, thermite undergoes an exothermic reduction-oxidation (redox) reaction and can create brief bursts of heat and high temperature in a small area.

Elemental aluminum reduces the oxide of another metal, in this common example iron oxide, because aluminum is stronger and more stable bonds with oxygen than iron:



1. A heating coil is heated by applying current from surface that ignites the thermite cartridge, which then causes the solid thermite rods to burn.
2. The burning thermite raises the temperature and the pressure inside the tool.
3. The mixture of hot plasma is forced through the internal orifices of the severing head and exits the tool with intense heat and high pressure.
4. The hot plasma (6,000°F) is directed toward the internal diameter of the tubing and cuts it instantaneously.

ADVANTAGES OF THE CHAMMAS PLASMA CUTTER (CPC) / PERFORATOR (CPP)

- DOT APPROVED AS A FLAMMABLE SOLID (NON-EXPLOSIVE)
- NO LICENSING FEES TO USE OUR TOOLS
- RF SAFE TESTED BY FRANKLIN APPLIED PHYSICS
- NO MOVING PARTS, MAKING OUR TOOL MORE RELIABLE
- CAN CUT AT HIGHER HYDROSTATIC PRESSURES THAN OTHER PIPE CUTTERS
- TUBING & ANNULUS PRESSURE DON'T NEED TO BE BALANCED WHEN USING THE SELF-ANCHORING TOOL
- NO FLARE OR ENLARGEMENT DAMAGE TO THE CUT PIPE, ELIMINATING THE NEED FOR MILLING
- MINIMAL DEBRIS LEFT IN THE HOLE
- UNDERSIZED CUTTERS FOR SMALL RESTRICTIONS
- RELIABLE UP TO 400°F
- CAN CUT ALL GRADES OF PIPE (CHROME, NICKEL, HASTELLOY, INCONEL, STAINLESS STEEL, ETC..)
- CAN CUT IN ALL FLUID TYPES AND WEIGHTS INCLUDING MUD
- CUT TAILPIPE BELOW PACKER
- CAN CUT CLOSE TO AN OBSTRUCTION
- EASY TO SHIP ANYWHERE IN THE WORLD

PLASMA CUTTERS



SELECTION GUIDE FOR SELF-ANCHORING PLASMA CUTTERS

TUBING OD	TUBING WEIGHT TUBING (I.D.)	TOOL SIZE	CARDTRIDGE SIZE	THERMITE ROD SIZE	PRESSURE RANGE (PSI) / THERMITE ROD QTY (RODS)						
					STANDARD PRESSURE			HIGH PRESSURE			
2 3/8" CT	3.7-5.396 lb/ft (1.903"-2.063")	1 1/2" SA	1500-5	1500-ROD	2,000 - 5,500 2	5,500 - 8,500 3	8,500 - 10,000 4	TBD			
2 3/8" TBG	4.7-5.95 lb/ft (1.876"-1.995")				2,000 - 4,500 2	4,500 - 8,000 3	8,000 - 10,000 4	10,000 - 12,500 5	12,500 - 15,000 6		
	6.2-7.7 lb/ft (1.703"-1.853")				2,000 - 4,500 3	4,500 - 8,000 4	8,000 - 10,000 5	10,000 - 12,500 6	12,500 - 15,000 7		
2 5/8" CT	3.844-5.749 lb/ft (2.177"-2.335")				2,000 - 3,500 2	3,500 - 8,000 3	8,000 - 10,000 4	TBD			
2 7/8" TBG	6.5-7.9 lb/ft (2.323"-2.441")				2,000 - 5,000 4	5,000 - 7,500 5	7,500 - 9,000 6	9,000 - 10,000 7	10,000 - 12,000 8	12,000 - 13,000 10	13,000 - 15,000 12
	8.7-10.7 lb/ft (2.059"-2.262")				2,000 - 5,000 5	5,000 - 7,500 6	7,500 - 9,000 7	9,000 - 10,000 8	10,000 - 12,000 9	12,000 - 13,000 11	13,000 - 15,000 13

PLASMA CUTTERS



SELECTION GUIDE FOR STANDARD PLASMA CUTTERS

TUBING OD	TUBING WEIGHT TUBING (I.D.)	TOOL SIZE	CARDTRIDGE SIZE	THERMITE ROD SIZE	PRESSURE RANGE (PSI) / THERMITE ROD QTY (RODS)						
					STANDARD PRESSURE				HIGH PRESSURE		
1 1/2" CT	1.426-1.957 lb/ft (1.241"-1.317")	7/8"	0875-5	0875-ROD	0 - 3,000 2	TBD					
1 3/4" CT	1.912-3.139 lb/ft (1.388"-1.540")				0 - 2,500 3	TBD					
2 3/8" CT	3.7-5.396 lb/ft (1.903"-2.063")				0 - 5,500 2	5,500 - 8,500 3	8,500 - 10,000 4	TBD			
2 3/8" TBG	4.7-5.95 lb/ft (1.876"-1.995")	1 1/2"	1500-5	1500-ROD	0 - 4,500 2	4,500 - 8,000 3	8,000 - 10,000 4	10,000 - 12,500 5	12,500 - 15,000 6		
	6.2-7.7 lb/ft (1.703"-1.853")				0 - 4,500 3	4,500 - 8,000 4	8,000 - 10,000 5	10,000 - 12,500 6	12,500 - 15,000 7		
2 5/8" CT	3.844-5.749 lb/ft (2.177"-2.335")				0 - 3,500 2	3,500 - 8,000 3	8,000 - 10,000 4	TBD			
2 7/8" TBG	6.5-7.9 lb/ft (2.323"-2.441")				0 - 5,000 4	5,000 - 8,500 5	8,500 - 10,000 6	10,000 - 12,000 7	12,000 - 13,500 8	13,500 - 15,000 10	
	8.7-10.7 lb/ft (2.059"-2.262")				0 - 5,000 5	5,000 - 8,500 6	8,500 - 10,000 7	10,000 - 12,000 8	12,000 - 13,500 9	13,500 - 15,000 11	
3 1/2" TBG	9.3-12.95 lb/ft (2.750"-2.992")	1 1/2" CW*	2000-5	2000-ROD	0 - 5,000 5	5,000 - 8,000 7	8,000 - 10,000 8	TBD			
	9.3-12.95 lb/ft (2.750"-2.992")	2"			0 - 5,500 3	5,500 - 8,000 4	8,000 - 9,000 5	9,000 - 10,000 6	10,000 - 11,500 7	11,500 - 12,500 8	12,500 - 15,000 9
	13.3-16.7 lb/ft (2.480"-2.762")				0 - 5,500 4	5,500 - 8,000 5	8,000 - 9,000 6	9,000 - 10,000 7	10,000 - 11,500 8	11,500 - 12,500 9	12,500 - 15,000 10
4" TBG	9.5-14 lb/ft (3.340"-3.548")				0 - 4,000 4	4,000 - 6,000 5	6,000 - 8,000 6	8,000 - 10,000 7	10,000 - 11,500 8	11,500 - 12,500 9	12,500 - 15,000 10
4 1/2 TBG	9.5-13.5 lb/ft (3.920"-4.090")	2" CW*			0 - 2,500 8	2,500 - 6,000 9	6,000 - 9,000 10	9,000 - 10,000 11	TBD		
	9.5-13.5 lb/ft (3.920"-4.090")	2 1/2"			0 - 3,500 3	3,500 - 6,000 4	6,000-8,000 5	8,000-10,000 6	10,000 - 12,000 7	12,000 - 13,500 8	13,500 - 15,000 9
5" DP	15.1-16.6 lb/ft (3.773"-3.845")			2500-ROD	0 - 3,500 4	3,500 - 6,000 5	6,000-8,000 6	8,000-10,000 7	10,000 - 12,000 8	12,000 - 13,500 9	13,500 - 15,000 10
	16.25-21.4 lb/ft (4.153"-4.372")	0 - 4,000 8			4,000 - 7,000 9	TBD					
	16.25-21.4 lb/ft (4.153"-4.372")	0 - 4,000 8			4,000 - 6,000 9	6,000 - 8,000 10	8,000 - 10,000 11	TBD			
23.2-24.1 lb/ft (4.034"-4.074")	0 - 4,000 9	4,000 - 6,000 10			6,000 - 8,000 11	8,000 - 10,000 12	TBD				
5 1/2" DP	17-23 lb/ft (4.67"-4.892")	2 1/2" CW*		0 - 3,000 9	3,000 - 5,000 10	TBD					
	17-23 lb/ft (4.67"-4.892")	3 1/2"	3000-ROD	0 - 5,000 5	TBD						

* CW: UNDERSIZED CUTTER

PLASMA CUTTERS



SELECTION GUIDE FOR STANDARD PLASMA PERFORATOR

TUBING OD	TUBING WEIGHT TUBING (I.D.)	TOOL SIZE	CARDTRIDGE SIZE	THERMITE ROD SIZE	PRESSURE RANGE (PSI) / THERMITE ROD QTY (RODS)				
					STANDARD PRESSURE			HIGH PRESSURE	
1 1/2" CT	1.426-1.957 lb/ft (1.241"-1.317")	7/8"	0875-5	0875-ROD	2,000 - 4,000 3	TBD		TBD	
1 3/4" CT	1.912-3.139 lb/ft (1.388"-1.540")				2,000 - 4,000 4	TBD		TBD	
2 3/8" TBG	4.7-5.95 lb/ft (1.876"-1.995")	1 1/2"	1500-5	1500-ROD	2,000 - 5,000 3	5,000 - 8,000 4	8,000 - 10,000 5	10,000 - 12,500 6	12,500 - 15,000 7
	6.2-7.7 lb/ft (1.703"-1.853")				2,000 - 5,000 4	5,000 - 8,000 5	8,000 - 10,000 6	10,000 - 12,500 7	12,500 - 15,000 8
2 7/8" TBG	6.5-7.9 lb/ft (2.323"-2.441")				2,000 - 4,000 4	4,000 - 8,000 5	8,000 - 9,000 6	9,000 - 10,000 7	TBD
	8.7-10.7 lb/ft (2.059"-2.262")				2,000 - 4,000 5	4,000 - 8,000 6	8,000 - 9,000 7	9,000 - 10,000 8	TBD
3 1/2" TBG	9.3-12.95 lb/ft (2.750"-2.992")				TBD				
	9.3-12.95 lb/ft (2.750"-2.992")				2"	2000-5	2000-ROD	2,000 - 5,500 3	5,500 - 8,500 4
13.3-16.7 lb/ft (2.480"-2.762")	2,000 - 5,500 4	5,500 - 8,500 5	8,500 - 10,000 7	10,000 - 12,500 8				12,500 - 15,000 9	
4" TBG	9.5-14 lb/ft (3.340"-3.548")	2,000 - 5,500 4	5,500 - 8,500 5	8,500 - 10,000 7	10,000 - 12,500 8			12,500 - 15,000 9	
4 1/2 TBG	9.5-13.5 lb/ft (3.920"-4.090")	2 1/2"	2,000 - 5,000 3	5,000 - 7,000 4	7,000-8,500 5			8,500-10,000 6	TBD
	15.1-16.6 lb/ft (3.773"-3.845")		2,000 - 5,000 4	5,000 - 7,000 5	7,000-8,500 6			8,500-10,000 7	TBD



CHAMMAS PLASMA PERFORATOR

F/ 7/8" TO 2 1/2" O.D.

Perforation Table

Tool Size	Number of Holes	Avg. Entry Hole	Total Surface Area
7/8" Perforator	3	0.380	0.3 – 0.4 in ²
1 1/2" Perforator	3	0.66	1 in ²
2" Perforator	3	0.80	1.5 in ²
2 1/2" Perforator	4	0.78	1.8 – 2 in ²

CHAMMAS PLASMA CUTTERS, LLC

Safety Data Sheet (SDS)

SDS Rev #4 (Rev Date: Sept 2023)
Date of Issue: Dec. 14, 2020

SECTION 1. IDENTIFICATION

Product Identifier: Thermite

Synonyms: Thermite Rod(s) or Thermite Powder

Product Form: Mixture

Manufacturer: Chammas Plasma Cutters, LLC.
11320 FM 529 bldg. I
Houston TX 77041
Tel (713) 856-8777

Emergency Number: CHEMTEL 1-800-255-3924 or Int'l +01-813-248-0585, (Contract # MIS0000161)

Recommended Use: Designed to be used exclusively with Chammas Plasma Cutters for cutting/perforating oilfield tubular downhole

SECTION 2. HAZARDS IDENTIFICATION

Mixture Classification: Flammable Solid (Category 1)

GHS Label Elements

Hazard Pictograms:



Signal Word: Danger

Hazard Statements: Fire hazard. May cause fire. Causes severe skin burns and eye damage. May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements

General: If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use.

Prevention: Wear fire resistant clothing. Wear eye/face protection. Wear protective gloves. Wear protective clothing. Keep away from heat/sparks/open flames/hot surfaces - no smoking. Keep away from combustible materials. Use in a well-ventilated area. Wash hands, forearms, and other exposed areas thoroughly after handling. Protect from moisture. Store in a dry place. Store and dispose of contents/container in accordance with the provisions of Bureau of Alcohol, Tobacco and Firearms regulations contained in 27 CFR part 555.

CHAMMAS PLASMA CUTTERS, LLC
Safety Data Sheet (SDS)SDS Rev #4 (Rev Date: Sept 2023)
Date of Issue: Dec. 14, 2020**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

COMPONENT	%	CAS #
Aluminum	Proprietary	7429-90-5
Magnalium	Proprietary	7439-95-4 / 7429-90-5
Iron Oxide	Proprietary	1309-37-1
Polytetrafluoroethylene (PTFE)	Proprietary	9002-84-0

SECTION 4. FIRST AID MEASURESFirst Aid Measures

Eye Contact:	Obtain medical attention. Flush eyes with water for several minutes. Check for and remove contact lenses. Continue flushing with water.
Skin Contact:	Obtain medical attention. Remove contaminated clothing and shoes. Wash skin with plenty of soap and water. Wash clothing before reuse. Clean shoes before reuse.
Inhalation:	When symptoms occur, go into fresh open air. Should symptoms continue, obtain medical attention.
Ingestion:	Obtain medical attention. Rinse mouth with water. Do not induce vomiting. Treat symptomatically and supportively.

Important Symptoms

Eye Contact:	May cause eye damage. Causes severe irritation.
Skin Contact:	Causes irritation. Redness, pain, swelling, itching, burning.
Inhalation:	Prolonged exposure may cause irritation.
Ingestion:	May cause irritation, nausea, and diarrhea.

CHAMMAS PLASMA CUTTERS, LLC

Safety Data Sheet (SDS)

SDS Rev #4 (Rev Date: Sept 2023)
Date of Issue: Dec. 14, 2020

SECTION 5. FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:	Dry silica sand, dry chemical.
Unsuitable Extinguishing Media:	Water, carbon dioxide, foam, halogenated extinguishers.
Specific Hazards:	After ignition, chemical reaction cannot be halted. Material burns vigorously. May cause fire. Material is sensitive to shock, high pressure, friction, and temperature.
Advice for Firefighters:	Exercise caution when fighting any chemical fire. Apply extinguishing media carefully to avoid spreading the powder. Fire fighters should wear appropriate personal protective equipment (PPE) and self-contained breathing apparatus (SCBA).

SECTION 6. ACCIDENTAL RELEASE MEASURES

General Measures:	Keep unnecessary and unprotected personnel from entering danger area. Keep away from heat, sparks, open flames, hot surfaces. No smoking in hazard area. Do not breathe in dust or fumes. Evacuate danger area. Avoid all contact with skin and eyes.
Non-Emergency Personnel:	Use appropriate PPE. Evacuate unnecessary personnel. Evacuate danger area.
Emergency Personnel:	Use appropriate PPE. Eliminate ignition sources. Ventilate area.
Environmental Precautions:	Prevent entry into sewers and public water. Avoid release to the environment. Notify competent authorities after a spill.
Spill Containment & Cleanup:	Isolate area from ignition sources. Clean up spills immediately and dispose of waste safely. Do not absorb with combustible material. Absorb with an inert material and place in a suitable container for waste. Use spark-proof tools. Avoid friction and shock when transferring material.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling:	May cause fire. Handling restricted to trained personnel only. Always keep powder dry. Keep away from sources of ignition – no smoking. Keep away from heat, sparks, open flames, hot surfaces. Do not breathe in dust or fumes. Avoid all contact with skin and eyes. Wear fire resistant clothing. Do not handle until all safety precautions have been read.
Advice on Hygiene:	Handle in accordance with good industrial hygiene and safety procedures. Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Wash hands thoroughly along with any other exposed areas with soap and water before eating, drinking, and smoking. Remove contaminated clothing before entering eating areas.
Conditions for Safe Storage:	Store in accordance with local regulations. Store under dry conditions in a well-ventilated area. Keep away from heat, sparks, open flames, hot surfaces. Store away from extremely high or low temperatures, direct sunlight, ignition sources. Keep original container protected sealed until ready for use.

CHAMMAS PLASMA CUTTERS, LLC

Safety Data Sheet (SDS)

SDS Rev #4 (Rev Date: Sept 2023)
Date of Issue: Dec. 14, 2020

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

No permissible exposure limits (PELs) or threshold limit values (TLVs) exist for thermite. The listing below is a summary of elements used in the chemical mixture. Thermite will contain different combinations of elements and/or trace materials. The composition percentage is considered proprietary.

COMPONENT	CAS #	OSHA PEL	ACGIH TLV
Aluminum	7429-90-5	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)	1 mg/m ³
Magnalium	7439-95-4 / 7429-90-5	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)	
Iron Oxide	1309-37-1	10 mg/m ³ (fume)	5 mg/m ³ (resp.)
Polytetrafluoroethylene (PTFE)	9002-84-0	15 mg/m ³ (total dust)	

Appropriate Engineering Controls:	Ensure adequate ventilation. Ensure all local regulations are observed. Product to be handled in a closed system under strictly controlled conditions.
Skin & Body Protection:	Flame resistant clothing. Appropriate footwear and any additional skin protection measures should be selected.
Hand Protection:	Flame resistant gloves.
Eye Protection:	Chemical safety glasses/goggles.
Respiratory Protection:	Based on potential exposure or if irritation occurs, select a respirator that meets the appropriate standard. In case of inadequate ventilation, wear approved respiratory protection.
Other Information:	Do not eat, drink, or smoke when using the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Appearance:	Fine metal powder, gray, black, brown, orange, and red in color
Odor:	Metallic
Specific Gravity (water =1):	> 1
Relative Density:	Not available
Boiling Point:	Not available
Freezing Point:	Not available
Viscosity:	Not available
Ph @ 25°C:	Not available
Vapor Density:	Not available
Evaporation Rate:	Not available
Vapor Pressure:	Not available
% Volatile:	Not available
Particle Size:	> 1 micron
Decomposition Temp:	Not available

CHAMMAS PLASMA CUTTERS, LLC**Safety Data Sheet (SDS)**

Solubility: Not available

SDS Rev #4 (Rev Date: Sept 2023)

Date of Issue: Dec. 14, 2020

SECTION 10. STABILITY & REACTIVITY DATA

Reactivity:	Fire hazard.
Chemical Stability:	Stable if handled properly.
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
Conditions to Avoid:	Keep away from open flames, hot surfaces, and sources of ignition. Material is sensitive to shock, high pressure, friction, and temperature.
Incompatible Materials:	Acids, halogens, moisture, water, oxidizers.
Hazardous Decomposition:	Hazardous decomposition will not occur if handled properly.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Effects:	Not Available
Chronic Effects:	Not Available
Target Organs:	Not Available
ORL-RAT LD50:	Not Available

Acute Health Effects

Eye Contact Symptoms:	May cause eye damage. Causes severe irritation.
Skin Contact Symptoms:	Causes irritation. Redness, pain, swelling, itching, burning.
Inhalation Symptoms:	Prolonged exposure may cause irritation.
Ingestion Symptoms:	May cause irritation, nausea and diarrhea.

Chronic Health Effects

Carcinogenicity:	No known significant effects.
Mutagenicity:	No known significant effects.
Teratogenicity:	No known significant effects.
Developmental Effects:	No known significant effects.
Fertility Effects:	No known significant effects.

SECTION 12. TOXICOLOGICAL INFORMATION

Toxicity:	Not Available
Persistence and Degradability:	Not Available
Bioaccumulative Potential:	Not Available
Mobility in Soil:	Not Available
Other Information:	Avoid release to the environment.

CHAMMAS PLASMA CUTTERS, LLC

Safety Data Sheet (SDS)

SDS Rev #4 (Rev Date: Sept 2023)
Date of Issue: Dec. 14, 2020

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods: Review and dispose of contents in accordance with international, federal, state, and local regulations. Avoid release to the environment. Prevent entry into sewers and public water.

SECTION 14. TRANSPORT INFORMATION

UN3178 Flammable Solids, Inorganic, n.o.s., (Thermite), 4.1, PGII

	DOT	IATA
UN Number	UN 3178	UN 3178
UN Proper Shipping Name	Flammable solid, inorganic, n.o.s., (Thermite)	Flammable solid, inorganic, n.o.s., (Thermite)
Transportation Hazard Class(es)	4.1	4.1
Packing Group	II	II
Passenger and Cargo Aircraft	Allowed	Allowed
Cargo Aircraft Only	Allowed	Allowed

SECTION 15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA (Toxic Substance Control Act):	Listed
CERCLA- Hazardous Substances:	Not Listed
EPCRA Section 302- Extremely Hazardous Substances:	Not Listed
EPCRA Section 313- Toxic Chemicals:	Aluminum (fume or dust)

SECTION 16. OTHER INFORMATION

NFPA Hazard Classification:	Health: 1	Flammability: 1	Reactivity: 0
HMIS Hazard Classification:	Health: 1	Flammability: 1	Reactivity: 0

Disclaimer:

Chammas Plasma Cutters, Inc. believes that to the best of our knowledge, the information contained herein is accurate in describing the product for purposes of health, safety, and environmental requirements only. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All material may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety Administration

The US Department of Transportation
Competent Authority for the United States

East Building, PHH - 24
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

CLASSIFICATION OF EXPLOSIVES
SECOND REVISION

Based upon a request by Chammas Plasma Cutters, 11320 FM 529 RD, STE I, Houston, TX 77041-3222, US, the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

An EX approval is non-transferable in any merger, acquisition, sale of assets, or other business transaction. For more information, please visit:
[<https://www.phmsa.dot.gov/registration/fdq-mergers-acquisitions-and-legal-status-changes-pdf>]

U.N. PROPER SHIPPING NAME AND NUMBER:

Flammable solid, inorganic, n.o.s., UN3178, PG II

U.N. CLASSIFICATION CODE: 4.1

REFERENCE NUMBER:

EX2020102116

PRODUCT DESIGNATION/PART NUMBER:

Thermite Composition 325E Pellets: (D: 1", Thick: 0.560", Wt: 10 g), (D: 1", Thick: 0.850", Wt: 21 g), (D: 1", Thick: 1.225", Wt: 37 g), (D: 1", Thick: 1.475", Wt: 70 g), (D: 1", Thick: 1.875", Wt: 110 g), (Outer Diameter: 0.325 - 2.950", Inner Diameter: 0.0781 - 0.313", length: 1"); Thermite Composition 325E Powder (particle size as tested)

NOTES: This approval as revised supersedes all previous versions.

DATED: September 13, 2023

for William Schoonover
Associate Administrator for Hazardous Materials Safety

Tracking No: 2023065291

Page 1 of 1