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 Westfield, IN 46074-3001 USA
 317.896.9531
 Imminet.com

Safety Data Sheet

1.0 Identification of the Substance/Preparation and of the Company	
Product Name:	IGP Buckle Pretensioner and IBP Buckle Pretensioner
Company Identification	IMMI 18881 IMMI Way Westfield, IN 46074 Importer: IMMI Ltd. Coopies Field Coopies Lane, Morpeth Northumberland NE61 6JT, United Kingdom
IMMI	(317) 896-9531
24/7/365 Incident Response Number	Within the USA and Canada 1-800-424-9300 CCN724403 Outside USA and Canada +1 703-741-5971 (collect calls accepted) For emergency calls only. Non-emergency calls cannot be serviced at this number.
Recommended Use	IGP Buckle Pretensioner and IBP Buckle Pretensioner are safety devices used in occupant restraint systems. When the buckle pretensioner deploys, it retracts the cable and buckle, removing slack from the seat belt. Each pretensioner assembly includes a buckle, cable, mechanical components, and a self-contained Micro-Gas Generator (MGG). Each MGG contains an electric initiator, lead wires, and solid propellant.

2.0 Hazards Identification	
Emergency Overview: The tamper-resistant, sealed metal container poses no risk of chemical exposure before deployment. If the container vessel is incinerated, broken, drilled into, electric current is connected to the lead wires, or if installed improperly, a physical hazard may exist during deployment. The sealed device, a micro-gas generator (MGG), contains a mixture of proprietary pyrotechnic materials. DO NOT cut, drill, braze, solder, weld, strike, or probe the steel container. Do not drop, the buckle pretensioner may be damaged, exposing the MGGs and/or propellant. Do not attempt to service or repair. Intact systems pose no health hazard when handled in a way that prevents deployment of the system or damage to the system. Upon Activation, the seat belt buckle and cable will move rapidly, possibly causing mechanical damage or injury. Previously deployed systems present no health hazard. Upon activation, the combustion byproducts of the pyrotechnic materials are instantaneous and in negligible quantities. Avoid breathing or ingesting products of combustion. If exposed to combustion products, move to fresh air. Seek medical attention if necessary. Overexposure due to inhalation of combustion products could irritate respiratory system or aggravate existing respiratory condition. Avoid contact of combustion residue with skin; if necessary, flush with water.	
Potential Health Effects	None expected when used as intended. Effluent gases from multiple deployments in testing situations may cause skin, eye, respiratory system, or mucus membrane irritation. Effluent gases in these situations must be effectively controlled through engineering systems designed and tested to remove applicable contaminants or PPE that will accomplish the same effect.
Hazard Classification	Class 9 – Miscellaneous Hazardous Materials
Pictogram	
Human Health Effects and Symptoms of Overexposure	
Inhalation	Potential to irritate respiratory system or aggravate existing respiratory condition.
Skin Contact	Potential skin irritant.



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Eyes	Potential eye irritant.
Ingestion	Not available.
Carcinogenicity	Not available.
Medical Conditions Aggravated by Exposure	Respiratory conditions.
Target Organs	Not available.
Potential Environmental Effects	Not available.

3.0 Composition/Information on Ingredients

All main modules (installed components) are constructed of inert metals and plastics. They contain the MGG with a chemical composition listed below.

Ingredients	Cas. No.	EC No.	% by Weight	EU Classification	EU R-Phrases
Main Charge					
Steel Casing & Hardware	Not Applicable	Not Applicable	Not Available		None
Zirconium [Zr]	7440-67-7	231-176-9	Not Available		R2,10,15,17,34,36/37/38 S2,4,13,15,16,17,18,23,24/25,29,30,33,36/37/39 41,59,61
Tungsten [W]	7440-33-7	231-143-9	Not Available		R2,7,10,34 S2,4,13,15,16,17,18,24/25,33,36/37/39,59
Potassium Perchlorate [ClKO ₄]	7778-74-7	231-912-9	Not Available		R2,5,7,10,16,22,34,36/37/38,48 S2,4,16,18,24/25,33,36/37/39,39,59
Secondary Smokeless Charge					
Nitro Cellulose [C ₂₃ H ₃₆ N ₈ O ₃₈]	9004-70-0	618-392-2	Not Available		None
Diphenylamine [C ₁₂ H ₁₁ N]	122-39-4	204-539-4	Not Available		R23,24,25,36/37/38,39,48,50,58 S2,4,7,24/25,29,36/37/39 57,59,61
Potassium Sulfate [K ₂ O ₄ S]	7778-80-5	231-915-5	Not Available		None
Carbon [C]	7440-44-0	231-153-3	Not Available		R48 S2,4,36/37/39
Graphite [C]	7782-42-5	231-955-3	Not Available		None

4.0 First Aid Measures

Inhalation	None expected when used as expected.
Eyes	None expected when used as intended.
Skin	None expected when used as intended.
Ingestion	None expected when used as intended.
Symptoms (Acute or Delayed)	None expected when used as intended.
Immediate Medical Care/Special Treatment	None expected when used as intended.

5.0 Fire Fighting Measures	
<p>Buckle Pretensioner: Fight fires from a distance. Rapidly moving seat belt buckles and cable may cause injuries.</p> <p>MGG: Follow DOT Emergency Response Guidebook #114. MGGs contain high-energy material as it contains both fuel and an oxygen source. Small amounts of propellant burn vigorously; large amounts may explode. Do not attempt to extinguish this material; evacuate all persons and responders. Move personnel from line of sight exposures and keep away from windows. Prevent fire from reaching propellant with water, CO₂, or dry chemical media as appropriate. Buckle pretensioner may activate during fire.</p> <p>Propellant: Follow DOT Emergency Response Guidebook #114. MGGs contain high-energy material as it contains both fuel and an oxygen source. Small amounts of propellant burn vigorously; large amounts may explode. Do not attempt to extinguish this material; evacuate all persons and responders. Move personnel from line of sight exposures and keep away from windows. Prevent fire from reaching propellant with water, CO₂, or dry chemical media as appropriate. Buckle pretensioner may activate during fire.</p>	

6.0 Accidental Release Measures	
Personal Precautions	If MGG is ruptured and propellant is present, use impervious gloves, safety goggles, dust mask, safety shoes, and flame treated clothing when cleaning contaminants.
Environmental Precautions	Avoid exposure to environmental water sources (rivers, streams, lakes, and other bodies of water) as certain chemicals could have negative and long-lasting impacts on the environment. Certain chemicals are also volatile when introduced to water, potentially creating hazardous chemical reactions.
Methods for Clean-up & Containment	When handled and installed properly, no spills or leaks should occur. If MGG is ruptured and propellant is present, clean up with non-sparking tools. Avoid spark, static electricity, and open flame. Avoid raising dust. Ventilate area. Wash spill site with water after material pick-up is complete. Wear all PPE (Personal Protective Equipment) in accordance with "Personal Precautions" of Section 6.0 – Accidental Release Measures.
Emergency Procedures	Evacuate immediate area and/or room containing ruptured MGG and propellant until contaminants are cleaned up in accordance with "Methods for Clean-up & Containment" of Section 6.0 – Accidental Release Measures.

7.0 Handling and Storage	
Handling	Avoid spark, ESD (Electrostatic Discharge), impact, friction, and open flame. Post deployment, the surface of the MGG may have trace amounts of particulate and is usually hot. Residue may be irritating to the skin, eyes, respiratory system, and mucous membranes. Latex or nitrile gloves under leather gloves or equivalent is recommended if handling hot fired MGGs. This device will be activated at temperatures great than 266° F (130° C). DO NOT cut, drill, braze, solder, weld, strike, or probe the steel container.
Storage	Recommend storage at ambient temperatures and on lower level racks. Store away from high temperatures, open flame, static electricity, and other ignition sources. Store in accordance with federal, state, and local regulations.

8.0 Exposure Control/Personal Protection			
Exposure Limit Values	OSHA-PEL	ACGIH-TLV	Other Limits
Main Charge			
Steel Casing & Hardware	Not Established	Not Established	Not Available
Zirconium [Zr]	5 mg / M3	5 mg / M3	NIOSH REL: 5 mg / M3
Tungsten [W]	5 mg / M3	5 mg / M3	NIOSH REL: 5 mg / M3
Potassium Perchlorate [ClKO ₄]	Not Established	Not Established	Not Available

Secondary Smokeless Charge			
Nitro Cellulose [C23H36N8O38]	Not Established	Not Established	Not Applicable
Diphenylamine [C12H11N]	10 mg / M3	10 mg / M3	NIOSH REL: 10 mg / M3
Potassium Sulfate [K2O4S]	Not Established	Not Established	Not Applicable
Carbon [C]	Not Established	Not Established	Not Applicable
Graphite [C]	5 mg / M3	2 mg / M3	NIOSH REL: 2.5 mg / M3
Engineering Controls		Effluent gases from multiple ignition testing situations may cause skin, eye, or respiratory irritation. Use approved engineering controls to minimize exposure to effluent gases. Use approved personal protective equipment in accordance with Section 6.0 – Accidental Release Measures – as a short-term control until engineering controls are adequate.	
Personal Protective Equipment			
Respiratory Protection		For multiple deployment testing situations use a NIOSH approved respirator.	
Hand Protection		Nitrile or latex gloves under leather gloves or equivalent gloves.	
Eye Protection		Safety glasses or goggles.	
Skin Protection		Avoid skin contact with propellant.	
General Hygiene Responsibilities		Use good personal hygiene at all times. Be sure to wash hands after handling MGGs.	

9.0 Physical and Chemical Properties	
General Information	
Appearance, Physical Form	Steel or aluminum structures with plastic deployment cover.
Color	Varies
Odor/Odor Threshold	None
Important Health, Safety, and Environmental Information	
Boiling Point	Not Applicable
Melt Point/Freeze Point	Not Applicable
Flash Point	Not Applicable
Flammability	MGG – Zirconium, Tungsten, Potassium Perchlorate, Nitro Cellulose, and Diphenylamine
9.0 Physical and Chemical Properties (cont.)	
pH	Not Applicable
Solubility in Water	Not Applicable
Specific Gravity	Not Applicable
% Volatile by Weight	Not Available
Vapor Pressure	Not Applicable
Vapor Density	Not Applicable
Partition Coefficient: n-octanol/water	Not Applicable
Evaporation Rate	Not Applicable
Explosive Properties	Projectile
Viscosity	Not Applicable
Decomposition Temperature	Not Applicable

Auto-ignition Temperature	266° F (130° C)
Relative Density	Not Applicable
Upper Flammability/Explosive Limit	266° F (130° C)
Lower Flammability/Explosive Limit	Not Applicable

10.0 Stability and Reactivity	
Reactivity	For specific test data for the chemical used in the MGGs, contact Nippon Kayaku, Safety Systems Group, +81-3-6731-5365
Chemical Stability	Sealed unit is stable when used as designed, as well as handled and stored in accordance with Section 7.0 "Handling and Storage".
Conditions to Avoid	Sparks, static electricity, open flame and hot temperatures.
Incompatible Materials	None in present form.
Hazardous Decomposition Products	May release carbon dioxide and trace amounts of carbon monoxide and hydrogen.
Possibility of Degradation to Unstable Products	Not determined.

11.0 Toxicology Information	
Acute Effects	
Oral LD50	Not applicable in present form.
Dermal LD50	Not applicable in present form.
Inhalation	Not applicable in present form.
Ingestion	Not applicable in present form.
Eye Irritation	Not applicable in present form.
Skin Irritation	Not applicable in present form.
Sensitization	Not applicable in present form.
Chronic Effects	
Carcinogenicity	Not applicable in present form.
Mutagenicity	Not applicable in present form.
Reproductive Effects	Not applicable in present form.
Developmental Effects	Not applicable in present form.

12.0 Ecological Information	
Ecotoxicity	Not available.
Mobility in Environment	Not available.
Persistence and Degradability	This device is sealed and under normal conditions poses no exposure hazard to human health or the environment. California Use Only: Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate
Bioaccumulative Potential	Not available.

13.0 Disposal Consideration	
In the United States, disposal of fully functional MGGs is required by the EPA. These MGGs are considered reactive hazardous waste (waste code D003). MGGs can be deactivated by thermal treatment. Dispose in accordance with Federal, State, and Local regulations.	

14.0 Transportation Information	
This Safety Data Sheet is not intended to have all shipping information.	
Identification Number	UN3268
Proper Shipping Name	Safety Devices
Hazard Classification	Class 9 – Miscellaneous Hazardous Materials
Packaging Group	-
DOT Approval Number	Specific to the individual program
For further information contact:	IMMI 18881 IMMI Way Westfield, IN 46074 317-896-9531

15.0 Regulatory Information	
OSHA Status	Manufactured article
TSCA Chemical Inventory	The components of this product are listed on the Toxic Substance Control Act (TSCA) inventory.
CERCLA Reportable Quantity, 40 CFR 302	No
EPCRA Section 302, Extremely Hazardous Substances	No
EPCRA Section 311/312, Hazard Category	Yes
EPCRA Section 313, Toxic Chemicals	Yes
RCRA Information	Please see Section 13, "Disposal Considerations" for recycling information. Otherwise, dispose of in accordance with all federal, state, and local regulations.
Information for Community	Not determined
EU Classifications	
EU Phrases	R2 Risk of Explosion by shock, friction, fire, or other sources of ignition R5 Heating may cause an explosion R7 May cause fire R10 Flammable R15 Contact with water liberate extremely flammable gases R16 Explosive when mixed with oxidizing substances R17 Spontaneously flammable in air R22 Harmful if swallowed R23 Toxic by inhalation R24 Toxic in contact with skin R25 Toxic if swallowed R34 Causes Burns R36 Irritating to eyes R37 Irritating to respiratory system R38 Irritating to skin R39 Danger of very serious irreversible effects R48 Danger of serious damage to health by prolonged exposure R50 Very toxic to aquatic organisms

R58	May cause long-term adverse effects in aquatic environment
S2	Keep out of reach of children
S4	Keep away from living quarters
S7	Keep container tightly closed
S13	Keep away from food, drink, and animal foodstuffs
S15	Keep away from heat
S16	Keep away from sources of ignition
S17	Keep away from combustible material
S18	Handle and open container with care
S23	Do not breathe effluents
S24/25	Avoid contact with skin and eyes
S29	Contact with water liberates toxic gas
S30	Never add water to this product
S33	Take precautionary measures against static
S36/37/39	Wear suitable protective clothing, gloves, and eye/face protection
S41	In case of fire and/or explosion do not breathe fumes
S57	Use appropriate containment to avoid environmental contamination
S59	Refer to manufacturer for recycling
S61	Avoid release to the environment

16.0 Other Information

Supplier Information	The environmental, health, and safety information contained herein is given in compliance with statutory obligations and relates only to the substance/preparation described in this safety data sheet. This safety data sheet is provided for information only and is not intended to create or imply any representation, agreement or warranty, whether express or implied except to the extent required by applicable law. The environmental, health, and safety information contained herein is believed to be accurate based on our current knowledge. It remains the sole responsibility of the customer to provide a safe workplace and to comply with all applicable laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patent or of applicable laws or regulations.			
HMIS Ratings	Health – 0	Flammability – 0	Reactivity – 1	PPE - X
SDS Preparation Data	11/28/2018			
SDS Revision Level	06			
SDS Changes	Changed document from MSDS to OSHA compliant SDS			

