



Single Base Powders
MATERIAL SAFETY DATA SHEET
April 2009

The following smokeless powders
are distributed by
IMR Legendary Powders

IMR 3031™
IMR 4007SSC™
IMR 4064®
IMR 4198™ - Canada
IMR4227™ - Canada
IMR 4320™
IMR 4350™
SR4756™
SR4759™
IMR 4831™
IMR 4895™
SR7625®
IMR 7828™
PB™
IMR 7828SSC™

GENERAL DYNAMICS

Produits de défense et Systèmes tactiques-Canada Valleyfield

Material Safety Data Sheet

General Dynamics Ordnance and Tactical
Systems-Canada Valleyfield Inc.
55, rue Masson
Valleyfield (Québec)
Canada J6S 4V9

Emergency phone number
24 hours : 1-888-922-3330
Emergency Response Plan ERP2-1693

SECTION I - PRODUCT IDENTIFICATION

Product name : IMR & CF (all types) Single base smokeless powder
WHIMS classification :
Division : not controlled
Subdivision :
GD Part number : 502-503-504-505-506-507-508-510-511-512-535-537-549-553-612.770
Chemical formula : N/AP
Product use : Gun propellant
CAS number : N/AP
MSDS number : 08D114

SECTION II - PHYSICAL / CHEMICAL DATA

Physical state and appearance : Black granular solid.
Molecular weight : N/AP
Vapour density (air = 1) : N/AP
Boiling point (°C) : N/AP
Odour threshold : N/AV
Vapour pressure : N/AP
Evaporation : N/AP
Freezing point (°C) : N/AP
pH : N/AV
Coefficient of water / oil distribution : N/AV
Density : 1.6g/cm³
Solubility in water (20°C) : N/AP

SECTION III – COMPOSITION

<u>Ingredients</u>	<u>% wt</u>	<u>TWA</u>	<u>CAS number</u>
Nitrocellulose	80 - 100	None	9004-70-0
Diphenylamine	1 - 2	10 mg/m ³	122-39-4
Dinitrotoluene	4-12	1.5 mg/m ³	121-14-2
Potassium sulfate	0.5	N/AV	7778-80-5
Graphite	<1	10 mg/m ³	7782-42-5

SECTION IV – FIRE AND EXPLOSION INFORMATION

Flash point (°C) :	N/AP
Autoignition temperature (°C) :	170° C (approx.)
Upper flammable limit (volume %) :	N/AV
Lower flammable limit (volume %) :	N/AV
Flammability ? :	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
If yes, under what conditions ? :	Heat, open flame, static discharge and impact.
Means of extinction :	Water can be used from a distance.
Special procedures :	<u>EVACUATE IMMEDIATELY.</u> Do not fight fire.
Hazardous combustion products :	Nitrogen and carbon oxides (NO _x and CO _x).
Explosion data :	This product is explosive and will ignite at high temperature, with an open flame or with a spark.
Sensitivity to mechanical impact or to static discharge :	Dust is sensitive to static discharge and impact.

SECTION V – REACTIVITY DATA

Chemical stability :	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
If no, under what conditions ? :	Heat, open flame and sparks.
Incompatibility to other substances ? :	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
If so, which ones ? :	Strong alkalis, strong acids and ignition sources.
Reactivity and under what conditions :	N/AP
Hazardous decomposition products :	Nitrogen oxides.

SECTION VI – HEALTH HAZARD DATA

Route of entry :

Skin absorption	<input type="checkbox"/>
Inhalation	<input checked="" type="checkbox"/>
Ingestion	<input checked="" type="checkbox"/>
Skin contact	<input checked="" type="checkbox"/>
Eye contact	<input type="checkbox"/>

Exposure limits (TWA) :

Graphite	Dinitrotoluene
10 mg/m ³	1.5 mg/m ³

Irritancy (product) :

Is irritating to the eyes and the respiratory tract.

Sensitization to product :

N/AV

Carcinogenicity :

N/AV

Teratogenicity :

N/AV

Reproductive effects :

N/AV

Synergistic materials :

N/AV

Mutagenicity :

N/AV

Effects of acute exposure to product:

Irritation of the eyes and the upper respiratory tract (nose and throat), followed by coughing.

Effects of chronic exposure to product :

N/AV

Toxicological data :

Products	Species	DL50 oral	DL50 skin	CL50 inhalation
Dinitrotoluene	Rat	278 mg/kg	N/AV	N/AV
Diphenylamine	Rat	>1500 mg/kg	N/AV	N/AV
Diphenylamine	Rabbit	N/AV	>5000 mg/kg	N/AV

SECTION VII – PREVENTIVE MEASURE

PERSONAL PROTECTIVE EQUIPMENT

Gloves and clothing :	Cotton or nitril gloves and protective clothing. Change frequently.
Eye protection :	Safety glasses with lateral protection.
Footwear :	Anti-static conductive shoes.
Other :	Safety shower and safety eye shower could be available.
Respiratory protection :	If ventilation is insufficient, wear a dust mask or a cartridge respirator.
Engineering controls :	N/AV
Handling procedures and equipment :	Explosive, will ignite if exposed to sudden heat.
Storage requirements :	Store away from source of ignition and heat.
Shipping information :	

Hazard Class :	1.3C
UN number:	UN 0161
Shipping name :	Powder smokeless
EX number	1990030214-215-216-217-218-219-220-221-222-223-224-225-226-227-230, 1997080014, 1990060052, 1990080091
Subsidiary risk :	Ø
Packing group :	II

SECTION VIII – FIRST AID MEASURES

Skin :	Wash contaminated area with soap and water.
Eye :	Keeping eyes open, rinse immediately with running water for at least 15 minutes.
Inhalation :	Move victim to fresh air. If victim is not breathing give CPR. Give oxygen, keep victim warm and get medical help.
Ingestion :	Consult a physician
Other and advice to doctor :	N/AV

SECTION IX – ENVIRONMENTAL PROTECTION INFORMATION

Environmental effects :	N/AV
Deactivating chemicals :	N/AV
Steps to be taken in the event of a spill or a leak :	Be sure to wet powder thoroughly before picking up with conventional methods.
Waste disposal :	Incinerate at an approved site.

SECTION X – PREPARATION INFORMATION

Prepared by : General Dynamics Ordnance and Tactical Systems–Canada Valleyfield Inc.
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Date : April, 2008

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Legend :

N/AP : Non applicable
N/AV : Not available
CAS : Chemical Abstract Service
TWA : Time weighted average
WHIMS : Workplace hazardous materials information system