
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

Product Name	Replacement Squib Cartridge
Other Trade Names	Squib Charge
Product Description	Electro - pyrotechnic device
Manufacturer/Supplier	Kidde Fire Systems
Address	400 Main Street Ashland, MA 01721 USA
Phone Number	(508) 881-2000
Chemtrec Number	(800) 424-9300
(for emergencies only)	(703) 527-3887 (International)
Revision Date:	May 7, 2012
MSDS Date:	February 9, 2009

Safety Data Sheet according to EC directive 2001/59/EC and OSHA's Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

WARNING! This product is an electro-pyrotechnic device. Explosive powders are contained within the shell. May detonate if exposed to friction, impact, heat, flame, radio transmitters, electric storms and electric currents, including those caused by static electricity.

EU Main Hazards

Risk of explosion by shock, friction, fire or other sources of ignition.

Routes of Entry

Eye contact - Inhalation - Skin contact - Ingestion

Carcinogenic Status

Not considered carcinogenic by NTP, IARC, and OSHA.

Target Organs

Respiratory System - Skin - Eye (See section 11 for additional information)

Health Effects - Eyes

Not a normal route of exposure since hazardous ingredients are sealed within the product. Repeated or prolonged contact with post function gases and particulates may cause irritation, tearing and blurred vision.

Health Effects - Skin

Not a normal route of exposure since hazardous ingredients are sealed within the product. Repeated or prolonged contact with post function residue and core materials may cause irritation.

Health Effects - Ingestion

Not a normal route of exposure since hazardous ingredients are sealed within the product. Ingestion of post function residue and core materials may be fatal.

Health Effects - Inhalation

Not a normal route of exposure since hazardous ingredients are sealed within the product. Repeated or prolonged contact with post function residue and core materials may cause respiratory tract irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS#/Codes	R Phrases	EU Classification
Cyclotrimethylenetrinitramine	121-82-4 EC# 204-500-1	None	None
Diphenylamine	122-39-4 EC# 204-539-4	R23/24/25, R33, R50/53T, N	
Nitrocellulose	9004-70-0 EC# NA	None	None
Potassium Perchlorate	7778-74-7 EC# 231-912-9	R9, R22	O, Xn
Titanium	7440-32-6 EC#231-142-3	None	None

4. FIRST AID MEASURES

For exposure to explosion:

Treat for shock by keeping victim warm. If victim is not breathing and/or has no pulse, administer cardio/pulmonary resuscitation or pulmonary respiration. Use pressure dressings to stop any bleeding. Seek immediate medical assistance.

For exposure to core materials and post detonation residue or fumes:**Eyes**

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin

Wash skin thoroughly with soap and water. Obtain medical attention if blistering occurs or redness persists.

Ingestion

Ingestion is not considered a potential route of exposure. However, seek medical attention if ingested.

Inhalation

Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Advice to Physicians

Treat symptomatically.

5. FIRE - FIGHTING MEASURES

Extinguishing Media

Use extinguishing agent appropriate to other materials involved. Keep containers and surroundings cool with water spray as containers may explode in the heat of a fire.

Unusual Fire and Explosion Hazards

Do not fight fires involving explosives. Product may explode. Evacuate the area and allow to burn or fight fire remotely. May release toxic fumes during a fire.

Protective Equipment for Fire-Fighting

Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. ACCIDENTAL RELEASE MEASURES

If cartridges are spilled from their shipping or storage container, cordon off the area to prevent damage to them. Wearing protective clothing, recover the cartridges by hand and inspect before repacking. Dispose of damaged cartridges as described in Section 13.

7. HANDLING AND STORAGE

Wear personal protective equipment as described in Section 8 when handling cartridges. Keep away from friction, impact, heat, flame, radio transmitters, electric storms and electric currents, including those caused by static electricity.

Store in original packaging in a secure dry magazine at temperatures between 80°F(27°C) and 100°F (40°C). Keep away from other explosives.

Do not disassemble cartridges as this may cause them to explode.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards

Occupational exposure limits are listed below, if they exist.

Cyclotrimethylenetrinitramine

ACGIH: TLV 0.5 mg/m³ 8h TWA. Danger of cutaneous absorption.

Diphenylamine

ACGIH: TLV 10 mg/m³ 8h TWA.

Nitrocellulose

None

Potassium Perchlorate

None

Titanium

None

Engineering Control Measures

Use engineering methods to prevent or control exposure. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Respiratory Protection

The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

Hand Protection

Cotton gloves.

Eye Protection

Chemical goggles or safety glasses with side shields.

Body Protection

Cotton clothing and conductive-soled shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid product
Color	N/A
Odor	None
Auto-ignition Temperature	325 °F
Boiling Range/Point (°C/F)	N/A
Flash Point (PMCC) (°C/F)	N/A
Solubility in Water	N/A
Vapor Density (Air = 1)	N/A
Vapor Pressure	N/A
Gas Density	N/A
Evaporation Rate	N/A

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions but improper handling can result in accidental detonation.

Conditions to Avoid

- exposure to low level electric current - impact - heat- static - shock - radio frequency (RF) energy

Materials to Avoid

- None known

Hazardous Polymerization

Will not occur.

Hazardous Decomposition Products

- oxides of carbon - nitrogen oxides - hydrogen cyanide - hydrochloric acid - titanium oxides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

May be fatal if core materials are swallowed.

Cyclotrimethylenetrinitramine: LD50 oral (rat) 100mg/kg

Diphenylamine: LD50 oral (rat) 2000 mg/kg

Chronic Toxicity/Carcinogenicity

Overexposure to compounds contained in the post function residue and core materials may cause adverse effects to kidneys, liver and central nervous system.

Genotoxicity

This product is not expected to cause any mutagenic effects

Reproductive/Developmental Toxicity

Lead Compounds: May cause adverse reproductive and developmental effects.

12. ECOLOGICAL INFORMATION

Mobility

No data available.

Persistence/Degradability

No data available.

Bio-accumulation

No data available.

Ecotoxicity

Cyclotrimethylenetrinitramine: LC50 Daphnia magna (Water flea) >15 mg/L/96 hr

Diphenylamine: LC50 Brachydanio rerio (Zebrafish) 2.2 mg/L/48hr

13. DISPOSAL CONSIDERATIONS

This material is considered hazardous waste and should be disposed of in accordance with all applicable local and national regulations.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data

UN0323, Cartridges, Power Device, Div 1.4S, PG II

UN Proper Shipping Name

Cartridges, Power Device

UN Class

1.4S

15. REGULATORY INFORMATION

EU Label Information

Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments (2001/60/EC and 2006/8/EC)

EU Hazard Symbol and Indication of Danger.

E : Explosive

R phrases

R2 Risk of explosion by shock, friction, fire or other sources of ignition.

S phrases

S35 This material and its container must be disposed of in a safe way.

S45 In case of accident or if you feel unwell, seek medical advice immediately.

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS**TSCA Listing**

This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

EINECS Listing

Some ingredients in this product are not listed on the European Inventory of Existing Commercial Chemical Substances (EINECS).

DSL/NDL (Canadian) Listing

All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDL) or are exempt from listing.

WHMIS Classification

Explosive materials are not classified under WHMIS.

This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

MA Right To Know Law

All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimis concentration include: Cyclotrimethylenetrinitramine (121-82-4) – Diphenylamine (122-39-4) – Nitrocellulose (9004-70-0) – Potassium perchlorate (7778-74-7)

PA Right To Know Law

This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - Cyclotrimethylenetrinitramine (121-82-4) – Diphenylamine (122-39-4) – Nitrocellulose (9004-70-0) – Potassium perchlorate (7778-74-7)

NJ Right To Know Law

This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: Cyclotrimethylenetrinitramine (121-82-4) – Diphenylamine (122-39-4) – Nitrocellulose (9004-70-0) – Potassium perchlorate (7778-74-7) – Titanium (7440-32-6)

California Proposition 65

This product contains the following materials which the State of California has found to cause cancer, birth defects or other reproductive harm: None

15. REGULATORY INFORMATION

SARA Title III Sect. 302 (EHS)

This product does not contain any chemicals subject to SARA Title III Section 302.

SARA Title III Sect. 304

This product does not contain any chemicals subject to SARA Title III Section 304.

SARA Title III Sect. 311/312 Categorization

- Immediate (Acute) Health Hazard – Delayed (Chronic) Health Hazard – Pressure Hazard (Explosive)

SARA Title III Sect. 313

This product contains the following chemicals listed in Section 313 at or above de minimis concentrations Diphenylamine (122-39-4)

16. OTHER INFORMATION

NFPA Ratings

NFPA Code for Health - 2

NFPA Code for Flammability - 1

NFPA Code for Reactivity - 4

NFPA Code for Special Hazards – None

HMIS Ratings

HMIS Code for Health - 2

HMIS Code for Flammability - 1

HMIS Code for Reactivity - 4

HMIS Code for Personal Protection - See Section 8

Abbreviations

N/A: Denotes no applicable information found or available

CAS#: Chemical Abstracts Service Number

ACGIH: American Conference of Governmental Industrial Hygienists

OSHA: Occupational Safety and Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit

NTP: National Toxicology Program

IARC: International Agency for Research on Cancer

R: Risk

T: Toxic

O: Oxidizer

Xn; Harmful

N: Dangerous for the environment.

R9 Explosive when mixed with combustible material.

R22 Harmful if swallowed.

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R33 Danger of cumulative effects.

R50/53 Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

S: Safety



A UTC Fire & Security Company

MATERIAL SAFETY DATA SHEET

Replacement Squib Cartridge

P/N 83-844712-000 & 83-897391-000

16. OTHER INFORMATION

Prepared By: EnviroNet LLC.

The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Kidde Fire Systems assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.
