Material Safety Data Sheet

Detonating Cord

1 - Identification of the Material and Supplier

1-1	**Product Identification :**	**DETONATING / DETONATION CORD – 800 SERIES** Gammacord – Hericord – Isoltex – Daveycord – Carricord – Eclair Plastex H – Seicord – Explocord – Cortex Isol - Daveyboost
1-2	**Product Use**	Pyrotechnic Initiation
1-3	**Company**	SNC DAVEY BICKFORD Le Moulin Gaspard 89 550 HERY FRANCE direction@daveybickford.fr
1-4	**Emergency Call**	Tel : + 33 3 86 47 30 00 Fax : + 33 3 86 47 81 94 24 Hour Phone (France only) : ORFILA + 33 1 45 42 59 59 Other countries : according to local regulation and see § 16.

2- Risk Identification

Explosive object
Risk of mass explosion - detonation of the product outside or inside packing.

3- Physical Data

Components used in the manufacturing of Davey Bickford detonating cord are:

- Pentrite : n° CAS 78-11-5, n° EINECS : 201-084-3, classification : E, R2, R22, R44. Linear load ≤ 100g / m
- Plastic PE
- Spins

4- First Aid

4-1	**General instructions**	Emergency first aid and medical transport needed according to apparent nature and severity of injuries.
4-2	**Inhalation**	Not known effects
4-3	**Contact with skin**	In case of contact, wash the affected parts of skin preferably by water and soap and rinse well. By signs of strong skin's irritation look for medical help.
4-4	**Contact with Eyes**	In case of contact, rinse minimally 15 minutes preferably by running water. Look for a medical help.
4-5	**Ingestion**	Do not swallow substances. Look for a medical help
4-6	**Other information**	In the event of an explosion nearby : have ears and hearing immediately checked (hearing test) by a specialist (ENT)

5- Fire Fighting Measures

5-1	**Extinguishing media**	- see § 5-5
5-2	**Prohibited extinguishing media**	None
5-3	**Hazards**	May detonate.
5-4	**Special firefighting Equipment**	Upon intervention, use a mask with cartridge. The gas generated could be toxic (CO, NOx, HCl) WARNING the risk of explosion may remain latent even after the fire has stopped, depending on the condition of products.

5-5	**Other information**	In case of fire nearby the products : use extinguishers and all available watering means. Without risk, immediately remove containers close to the fire. In case of fire of the product : do not fight fire but withdraw personnel immediately, beyond a 300m safety distance. Evacuate the immediate perimeter of the fire, block accesses and protect against the effects of fire.

6- SPILL OR LEAK PROCEDURES

6-1	**Individual precautions**	Isolate the area
6-2	**Precautions for environment protection**	Exposive materials which are accidentally dispersed outside pyrotechnic devices shall be collected and removed for destruction. Do not let them to polluate water (river, etc.)
6-3	**Collection method**	**For pentrite** : humidify the product, collect it into an appropriate closed receptacle with identification and move to an appropriate treatment centre. Make sure that : - all impacts, friction and other sources of sparks are avoided. - all sources of heat are kept at a distance, and that no naked flame is brought near the products, - Remove all other pyrotechnic items, since the handling of materials can cause an explosion. - If the packaging is broken, put the products into a wooden or cardboard box, avoiding all forms of commotion (impact, spark, heat etc.)
6-4	**Other information**	In the event of a malfunction of a pyrotechnic device resulting in active basic substances being laid bare : do not breathe dust, avoid contact with same, do not swallow these substances.

7- HANDLING AND STORAGE

7-1	**Handling**	Handle with care, avoid all forms of commotion (impact and friction on products and their packagings), keep products and packagings away from heat, flames and sparks. Keep far from children. The control and use of pyrotechnic articles must be done by authorized staff. Handling equipment must be designed to prevent falls, dispersion, and any form of contamination of the products. A survey shall determine the appropriate protection system to be installed on the handling equipment.
7-2	**Storage**	Storage temperature : -30 + 50°C Smoking prohibited. Keep in a dry place. Respect of compatibility groups : items in the compatibility group D are detonating explosive substances without the mean of initiation.
7-3	**Special use**	Not applicable

8- SPECIAL PROTECTION INFORMATION / HEALTH HAZARD DATA

8-1	**Threshold Limit Value**	Not applicable
8-2	**Control of exposure**	During normal use, always remain protected from the effects of the detonation.
8-3	**Individual protection**	**- Respiratory protection :** Avoid breathing fumes from detonation, avoid breathing dust from PETN **- Hands protection : use** gloves suitable for the work - **Skin protection:** Wear appropriate clothing. Wash your hands by running water and soap after work. - **Eye protection :** safety glasses **- Ear protection** : Use ear protectors if close to the detonation.
8-4	**Other information**	Don't eat, drink and smoke at work.

9- PHYSICO-CHEMICAL PROPERTIES

Appearance	For PETN : solid
Odour	For PETN : without particular odour
pH	Not applicable
Boiling point	Not applicable
Flash point	Not applicable
Flammable limits	For PETN : Melting point :140°C Decomposition point : 190°C Spontaneous combustability : 200 – 205°C
Explosive properties	For Pentrite : resistance to impact : 3Nm Resistance to friction : 60N Heat to explosion : 6402 kJ/kg
Propriétés comburantes	Not known
Vapor pressure	Not known
Density	For PETN : about 1 kg/L
Solubility	For PETN : soluble in acetone (about 20 g / 100 g acetone at 20°C)
Solubility in water	For Pentrite : insoluble
Coeff of share n-octanol/water	Not known
Viscosity	Not applicable
vapor density	Not applicable
Evaporation rate	Not applicable
Other information	Product made to detonate

10- STABILITY AND REACTIVITY

10-1 Conditions to avoid	Avoid any exposure to high temperature, to impact and friction.
10-2 Materials to avoid	All uncontrolled means of initiation. Other explosive objects or materials from any other compatibility group.
10-3 Hazardous Decomposition Products.	CO, NOx and HCl

11- TOXICOLOGICAL INFORMATION

Toxicinetics : metabolism and distribution	Active hypotension agent. Vasodilator causing face flushes and headaches if swallowed
Acute effects, high toxicity, irritation, corrosive effects	For PETN : only in case of ingestion DL50 (rat, oral tract) = 19500 mg/kg
Sensitization	For PETN : can irritate skin
Toxicity by repeted ingestion	Not applicable
CMR effects(carcinogenic, mutagenic, reprotoxicity)	CMR effects unknown
Other information	Object made to detonate.

12- ECOLOGICAL INFORMATION

- **Ecotoxicity**	Not known
- **Mobility**	For PETN : insoluble in water
- **Persistency et dwearing away**	Not known
- **Bioaccumulation potential**	Not known
- **Result of PBT evaluation**	Not known
- **Other nocive effects**	Not known

13- FACTORS CONCERNING WASTE ELIMINATION

Appropriate methods to dispose of substances / preparation/ product	Do not put into a waste bin or dump. Pyrotechnic products can only be destroyed by explosion or incineration in an on-purpose designed area, by duly protected and authorized staff, in accordance with state and federal regulations. A preliminary safety study shall define : - the operating methods, instructions and recommendations for the destruction of pyrotechnic products, - the means of protection for the staff, in order to stipulate the maximum admissible charges in relation to the environment and persons to be protected.
Appropriate method to dispose of packagings	To be made on site per state and federal regulation, by authorized staff.
Other information	Do not mix explosive materials with initiating devices during the destruction of the latter.

14- TRANSPORT INFORMATION

In order to be transported, all items or substances of class 1 must have a transport approval in accordance with the packing conditions.

UN Number	0065
Exact name	**Cord, detonating,** flexible
Risk classification	1.1 D
Label	1
ADR (road) specificities	none
IATA (air) specificities	forbidden
IMDG (sea) specificities	none

15- STATUTORY INFORMATION

	Identification and labelling in compliance with product class

16- OTHER DATA

	Emergency response information during transportation Contact : United States, Canada, Puerto Rico & U.S Virgin Island : **800-255-3924-** International Emergency : **813/248-0585** (collects) For any specific requirement, please contact Davey Bickford.

General Information

Present file in no way exempts users of the item in question from referring to the official texts in order to ascertain all the obligations to which they are liable. The information contained in present datasheet is based on the state of our knowledge with regard to the item in question as of its date of edition. The present file is not exhaustive and only refers to normal use of the product in question.