

Material Safety Data Sheet

conforming 2001/58/EG



1.) Product and Company Identification:

Product Identification:

Comet 15mm cartridge, red Art.-No.: 9124200 (Screwing)
Art.-No.: 9164200 (Clip)



Use of Product:

Sea distress signal

Manufacturer's name:

Comet GmbH
Pyrotechnik – Apparatebau
Vieländer Weg 147
27574 Bremerhaven
Deutschland



Emergency Contact:

Phone: ++49-(0)471-393-0 24 hours

2.) Composition / Information on Ingredients:

➤ Chemical Characterization:	Oxidation and combustible mixture			
➤ Description:	Pressed, pyrotechnical powder			
➤ Hazardous Ingredients:	<u>EC-No.:</u>	<u>CAS-No.:</u>	<u>R-Sentences:</u>	<u>Content:</u>
Lighter composition:				
- Strontium Nitrate	233-131-9	10042-76-9	8, 36, 37, 38	30-60%
- Magnesium	012-002-00-9	7939-95-4	11, 15	10-30%
- PVC-Powder		9002-86-2	none	10-30%
Ignition Composition:				
- Blackpowder	231-818-8	7757-79-1	2	30-60%
- Aluminium	231-072-3	7429-90-5	10, 15	10-30%
- Barium Nitrate	233-020-5	10022-31-8	20, 22	10-30%
Propellant:				
- Blackpowder	231-818-8	7757-79-1	2	60-100%

3.) Hazard Identification:

- Hazard: flammable
- Special hazards for Health & Environment:
Burn hazard if not used conforming manual instructions
- Classification System: not applicable

4.) First Aid Measures:

- Inhalation: having problems after inhaling smoke, consult a physician
- Skin contact: flush with water
- Eye contact: flush with water, consult a physician
- Swallowing: having problems after swallowing smoke, consult a physician

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5.) Fire Fighting Measures:

- Extinguishing Media: once the signal is ignited, it can not be extinguished for secondary fires = water
- Special protection gear: none

6.) Accidental Release Measures:

- Personal Safety Measures: use signal only in emergency cases
- Environmental Measures: not applicable
- Cleaning instructions: not applicable

7.) Handling and Storage:

- Handling: Conforming instructions printed on the signal
- Indications concerning fire and explosion protection: not applicable
- Storage: Store in cool and dry environment, avoid heat
- Warehouse and packaging requirements:
Storage only in original packing and conforming the directions for storing dangerous goods
- Common storage with other goods:
Storage only together with non-dangerous goods, resp. goods of the same dangerous goods classification.
- VbF classification: not applicable

8.) Exposure Controls & Personal Protection:

- Additional information concerning technical installations: not applicable
- Exposure limits: not applicable
- Limiting and surveillance of exposure: not applicable
- Personal protection equipment: not applicable
- Respiratory protection: not applicable
- Hand protection: not applicable
- Eye protection: not applicable
- Body protection: not applicable

9.) Physical & Chemical Properties:

- Form: Cartridge with pressed explosives
- Colour: Outer casing: metal, red
Pyrotechnical ingredients: black / grey
- Odor: neutral
- pH-value: not applicable
- Change in state: not applicable
- Melting point/ area: not applicable
- Boiling point/ area: not applicable
- Flashpoint: 160°C / 320° F
- Self Inflammability: not applicable
- Explosion risk: not applicable
- Density: not applicable
- Solubility / Miscibility in Wasser: indissoluble

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10.) Stability & Reactivity Data:

- Autoignition / Conditions to avoid:
 - 1) Temperatures >160°C (320°F)
 - 2) Strong mechanical impact, e.g. pushing or throwing
- Hazardous Reactions: During intended use: flames, heat and smoke
- Hazardous Corrosion Products: not applicable

11.) Toxicological Data:

(for products arising during intended reaction)

- Acute Toxicity: Inhalation of flue gases (fine dust of magnesium oxide)
- Primary Irritation: none
- Sensitisation: none
- Additional toxicological Indications: none

12.) Ecological Data:

- General Indications: none

13.) Disposal Considerations:

- Disposal via specialised trade

14.) Transport Information:

- Dangerous Goods Classification: 1.4G UN 0312

15.) Regulatory Information:

- Labeling EWG Restrictions: not applicable.
- National Restrictions: not applicable
- Classification VbF: not applicable
- Water Pollution Class: not applicable

16.) Other Information:

- R-Sentences:
 - # 2 = Explosive, due to heavy impact, friction or open fire
 - # 8 = Inflammable, when in contact with other combustible materials
 - # 10 = Inflammable
 - # 11 = Highly inflammable
 - # 15 = Highly inflammable gases occur, when reacting with water
 - # 20 = Harmful to health when inhaled
 - # 22 = Harmful to health when swallowed
 - # 36 = Irritating for eyes
 - # 37 = Irritating for respiratory organ
 - # 38 = Irritating for skin

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1.) Product and Company Identification:

Product Identification:

Comet 15mm cartridge,
green

Art.-No.: 9124300 (Screwing)
Art.-No.: 9164300 (Clip)



Use of Product:

Sea distress signal

Manufacturer's name:

Comet GmbH
Pyrotechnik – Apparatebau
Vieländer Weg 147
27574 Bremerhaven
Deutschland



Emergency Contact:

Phone: ++49-(0)471-393-0 24 hours

2.) Composition / Information on Ingredients:

➤ Chemical Characterization:	Oxidation and combustible mixture			
➤ Description:	Pressed, pyrotechnical powder			
➤ Hazardous Ingredients:	<u>EC-No.:</u>	<u>CAS-No.:</u>	<u>R-Sentences:</u>	<u>Content:</u>
Lighter composition:				
- Barium Nitrate	233-020-5	10022-31-8	20, 22	60-100%
- Magnesium	012-002-00-9	7939-95-4	11, 15	10-30%
- PVC-Powder		9002-86-2	none	10-30%
Ignition Composition:				
- Blackpowder	231-818-8	7757-79-1	2	30-60%
- Aluminium	231-072-3	7429-90-5	10, 15	10-30%
- Barium Nitrate	233-020-5	10022-31-8	20, 22	10-30%
Propellant:				
- Blackpowder	231-818-8	7757-79-1	2	60-100%

3.) Hazard Identification:

- Hazard: flammable
- Special hazards for Health & Environment:
Burn hazard if not used conforming manual instructions
- Classification System: not applicable

4.) First Aid Measures:

- Inhalation: having problems after inhaling smoke, consult a physician
- Skin contact: flush with water
- Eye contact: flush with water, consult a physician
- Swallowing: having problems after swallowing smoke, consult a physician

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5.) Fire Fighting Measures:

- Extinguishing Media: once the signal is ignited, it can not be extinguished for secondary fires = water
- Special protection gear: none

6.) Accidental Release Measures:

- Personal Safety Measures: use signal only in emergency cases
- Environmental Measures: not applicable
- Cleaning instructions: not applicable

7.) Handling and Storage:

- Handling: Conforming instructions printed on the signal
- Indications concerning fire and explosion protection: not applicable
- Storage: Store in cool and dry environment, avoid heat
- Warehouse and packaging requirements:
Storage only in original packing and conforming the directions for storing dangerous goods
- Common storage with other goods:
Storage only together with non-dangerous goods, resp. goods of the same dangerous goods classification.
- VbF classification: not applicable

8.) Exposure Controls & Personal Protection:

- Additional information concerning technical installations: not applicable
- Exposure limits: not applicable
- Limiting and surveillance of exposure: not applicable
- Personal protection equipment: not applicable
- Respiratory protection: not applicable
- Hand protection: not applicable
- Eye protection: not applicable
- Body protection: not applicable

9.) Physical & Chemical Properties:

- Form: Cartridge with pressed explosives
- Colour: Outer casing: metal, green
Pyrotechnical ingredients: black / grey
neutral
- Odor: neutral
- pH-value: not applicable
- Change in state: not applicable
- Melting point/ area: not applicable
- Boiling point/ area: not applicable
- Flashpoint: 160°C / 320° F
- Self Inflammability: not applicable
- Explosion risk: not applicable
- Density: not applicable
- Solubility / Miscibility in Wasser: indissoluble

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10.) Stability & Reactivity Data:

- Autoignition / Conditions to avoid:
 - 1) Temperatures >160°C (320°F)
 - 2) Strong mechanical impact, e.g. pushing or throwing
- Hazardous Reactions: During intended use: flames, heat and smoke
- Hazardous Corrosion Products: not applicable

11.) Toxicological Data:

(for products arising during intended reaction)

- Acute Toxicity: Inhalation of flue gases (fine dust of magnesium oxide)
- Primary Irritation: none
- Sensitisation: none
- Additional toxicological Indications: none

12.) Ecological Data:

- General Indications: none

13.) Disposal Considerations:

- Disposal via specialised trade

14.) Transport Information:

- Dangerous Goods Classification: 1.4G UN 0312

15.) Regulatory Information:

- Labeling EWG Restrictions: not applicable.
- National Restrictions: not applicable
- Classification VbF: not applicable
- Water Pollution Class: not applicable

16.) Other Information:

- R-Sentences:
 - # 2 = Explosive, due to heavy impact, friction or open fire
 - # 8 = Inflammable, when in contact with other combustible materials
 - # 10 = Inflammable
 - # 11 = Highly inflammable
 - # 15 = Highly inflammable gases occur, when reacting with water
 - # 20 = Harmful to health when inhaled
 - # 22 = Harmful to health when swallowed

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1.) Product and Company Identification:

Product Identification:

Comet 15mm cartridge,
white

Art.-No.: 9124400 (Screwing)
Art.-No.: 9164400 (Clip)



Use of Product:

Sea distress signal

Manufacturer's name:

Comet GmbH
Pyrotechnik – Apparatebau
Vieländer Weg 147
27574 Bremerhaven
Deutschland



Emergency Contact:

Phone: ++49-(0)471-393-0 24 hours

2.) Composition / Information on Ingredients:

➤ Chemical Characterization:	Oxidation and combustible mixture			
➤ Description:	Pressed, pyrotechnical powder			
➤ Hazardous Ingredients:	<u>EC-No.:</u>	<u>CAS-No.:</u>	<u>R-Sentences:</u>	<u>Content:</u>
Lighter composition:				
- Barium Nitrate	233-020-5	10022-31-8	20, 22	60-100%
- Aluminium	231-072-3	7429-90-5	10, 15	10-30%
- Sulfur	231-722-6	7704-34-9	none	5-10%
- Barium Fluoride	232-108-0	7787-32-8	20, 22	1-5%
- Zink Oxide	215-222-5	1314-13-2	none	1-5%
Ignition Composition:				
- Blackpowder	231-818-8	7757-79-1	2	30-60%
- Aluminium	231-072-3	7429-90-5	10, 15	10-30%
- Barium Nitrate	233-020-5	10022-31-8	20, 22	10-30%
Propellant:				
- Blackpowder	231-818-8	7757-79-1	2	60-100%

3.) Hazard Identification:

- Hazard: flammable
- Special hazards for Health & Environment:
Burn hazard if not used conforming manual instructions
- Classification System: not applicable

4.) First Aid Measures:

- Inhalation: having problems after inhaling smoke, consult a physician
- Skin contact: flush with water
- Eye contact: flush with water, consult a physician
- Swallowing: having problems after swallowing smoke, consult a physician

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5.) Fire Fighting Measures:

- Extinguishing Media: once the signal is ignited, it can not be extinguished for secondary fires = water
- Special protection gear: none

6.) Accidental Release Measures:

- Personal Safety Measures: use signal only in emergency cases
- Environmental Measures: not applicable
- Cleaning instructions: not applicable

7.) Handling and Storage:

- Handling: Conforming instructions printed on the signal
- Indications concerning fire and explosion protection: not applicable
- Storage: Store in cool and dry environment, avoid heat
- Warehouse and packaging requirements:
Storage only in original packing and conforming the directions for storing dangerous goods
- Common storage with other goods:
Storage only together with non-dangerous goods, resp. goods of the same dangerous goods classification.
- VbF classification: not applicable

8.) Exposure Controls & Personal Protection:

- Additional information concerning technical installations: not applicable
- Exposure limits: not applicable
- Limiting and surveillance of exposure: not applicable
- Personal protection equipment: not applicable
- Respiratory protection: not applicable
- Hand protection: not applicable
- Eye protection: not applicable
- Body protection: not applicable

9.) Physical & Chemical Properties:

- Form: Cartridge with pressed explosives
- Colour: Outer casing: metal, white
Pyrotechnical ingredients: black / grey
neutral
- Odor: neutral
- pH-value: not applicable
- Change in state: not applicable
- Melting point/ area: not applicable
- Boiling point/ area: not applicable
- Flashpoint: 160°C / 320° F
- Self Inflammability: not applicable
- Explosion risk: not applicable
- Density: not applicable
- Solubility / Miscibility in Wasser: indissoluble

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10.) Stability & Reactivity Data:

- Autoignition / Conditions to avoid:
 - 1) Temperatures >160°C (320°F)
 - 2) Strong mechanical impact, e.g. pushing or throwing
- Hazardous Reactions: During intended use: flames, heat and smoke
- Hazardous Corrosion Products: not applicable

11.) Toxicological Data:

(for products arising during intended reaction)

- Acute Toxicity: Inhalation of flue gases (fine dust of magnesium oxide)
- Primary Irritation: none
- Sensitisation: none
- Additional toxicological Indications: none

12.) Ecological Data:

- General Indications: none

13.) Disposal Considerations:

- Disposal via specialised trade

14.) Transport Information:

- Dangerous Goods Classification: 1.4G UN 0312

15.) Regulatory Information:

- Labeling EWG Restrictions: not applicable.
- National Restrictions: not applicable
- Classification VbF: not applicable
- Water Pollution Class: not applicable

16.) Other Information:

- R-Sentences:
 - # 2 = Explosive, due to heavy impact, friction or open fire
 - # 8 = Inflammable, when in contact with other combustible materials
 - # 10 = Inflammable
 - # 11 = Highly inflammable
 - # 15 = Highly inflammable gases occur, when reacting with water
 - # 20 = Harmful to health when inhaled
 - # 22 = Harmful to health when swallowed

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1.) Product and Company Identification:

Product Identification:

Comet 15mm cartridge,
Flash-Bang

Art.-No.: 9124700 (Screwing)
Art.-No.: 9164700 (Clip)



Use of Product:

Sea distress signal

Manufacturer's name:

Comet GmbH
Pyrotechnik – Apparatebau
Vieländer Weg 147
27574 Bremerhaven
Deutschland

Emergency Contact:

Phone: ++49-(0)471-393-0 24 hours

2.) Composition / Information on Ingredients:

➤ Chemical Characterization:	Oxidation and combustible mixture			
➤ Description:	Pressed, pyrotechnical powder			
➤ Hazardous Ingredients:	<u>EC-No.:</u>	<u>CAS-No.:</u>	<u>R-Sentences:</u>	<u>Content:</u>
Flash/Bang Composition:				
- Potassium Perchlorate	231-912-9	7778-74-7	9, 22	60-100%
- Aluminium	231-072-3	7429-90-5	10, 15	10-30%
Delay Composition:				
- Blackpowder	231-818-8	7757-79-1	2	60-100%

3.) Hazard Identification:

- Hazard: flammable
- Special hazards for Health & Environment:
Burn hazard if not used conforming manual instructions
- Classification System: not applicable

4.) First Aid Measures:

- Inhalation: having problems after inhaling smoke, consult a physician
- Skin contact: flush with water
- Eye contact: flush with water, consult a physician
- Swallowing: having problems after swallowing smoke, consult a physician

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5.) Fire Fighting Measures:

- Extinguishing Media: once the signal is ignited, it can not be extinguished for secondary fires = water
- Special protection gear: none

6.) Accidental Release Measures:

- Personal Safety Measures: use signal only in emergency cases
- Environmental Measures: not applicable
- Cleaning instructions: not applicable

7.) Handling and Storage:

- Handling: Conforming instructions printed on the signal
- Indications concerning fire and explosion protection: not applicable
- Storage: Store in cool and dry environment, avoid heat
- Warehouse and packaging requirements:
Storage only in original packing and conforming the directions for storing dangerous goods
- Common storage with other goods:
Storage only together with non-dangerous goods, resp. goods of the same dangerous goods classification.
- VbF classification: not applicable

8.) Exposure Controls & Personal Protection:

- Additional information concerning technical installations: not applicable
- Exposure limits: not applicable
- Limiting and surveillance of exposure: not applicable
- Personal protection equipment: not applicable
- Respiratory protection: not applicable
- Hand protection: not applicable
- Eye protection: not applicable
- Body protection: not applicable

9.) Physical & Chemical Properties:

- Form: Cartridge with pressed explosives
- Colour: Outer casing: metal, silver
Pyrotechnical ingredients: black / grey
neutral
- Odor: neutral
- pH-value: not applicable
- Change in state: not applicable
- Melting point/ area: not applicable
- Boiling point/ area: not applicable
- Flashpoint: 160°C / 320° F
- Self Inflammability: not applicable
- Explosion risk: not applicable
- Density: not applicable
- Solubility / Miscibility in Wasser: indissoluble

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10.) Stability & Reactivity Data:

- Autoignition / Conditions to avoid:
 - 1) Temperatures >160°C (320°F)
 - 2) Strong mechanical impact, e.g. pushing or throwing
- Hazardous Reactions: During intended use: flames, heat and smoke
- Hazardous Corrosion Products: not applicable

11.) Toxicological Data:

(for products arising during intended reaction)

- Acute Toxicity: Inhalation of flue gases (fine dust of magnesium oxide)
- Primary Irritation: none
- Sensitisation: none
- Additional toxicological Indications: none

12.) Ecological Data:

- General Indications: none

13.) Disposal Considerations:

- Disposal via specialised trade

14.) Transport Information:

- Dangerous Goods Classification: 1.3G UN 0430

15.) Regulatory Information:

- Labeling EWG Restrictions: not applicable.
- National Restrictions: not applicable
- Classification VbF: not applicable
- Water Pollution Class: not applicable

16.) Other Information:

- R-Sentences:
 - # 2 = Explosive, due to heavy impact, friction or open fire
 - # 9 = Inflammable, when in contact with other flammable materials
 - # 10 = Inflammable
 - # 15 = Highly inflammable gases occur, when reacting with water
 - # 22 = Harmful to health when swallowed