

FEB 25 2014

Ms. Roxanna Marchand
Manager, Orders & Distribution
Komatsu America Corporation
2300 N.E. Adams Street
P.O. Box 240
Peoria, IL 61650

Reference No.: 13-0236

Dear Ms. Marchand:

This is in response to your December 5, 2013 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to fire extinguishers. Specifically you ask what the proper shipping name would be for a manifolded unit that contains an extinguishing agent and separate DOT cylinder (or cartridge) containing nitrogen or a similar compressed gas used to expel the extinguishing agent.

Based on the information you provided, the system would most appropriately be described as UN1044, Fire Extinguisher. When the cylinder or cartridge containing a compressed gas is installed in the fire extinguisher the complete unit must be described as a fire extinguisher. When the cylinder containing the compressed gas is transported separately, the cylinder must be described with the name of its compressed gas contents.

I hope this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

Duane Pfund
International Standards Coordinator
Standards and Rulemaking Division

CONCURRENCES
RTG. SYMBOL PHH-13
INITIALS/SIG. KAY
DATE 1/28/2013
RTG. SYMBOL PHH-43
INITIALS/SIG. L. Kwilinski
DATE 1/28/2013
RTG. SYMBOL PHC10
INITIALS/SIG. ADG
DATE 2/11/14
RTG. SYMBOL PHC-10
INITIALS/SIG. [Signature]
DATE 2/12/13
RTG. SYMBOL PHH-13
INITIALS/SIG. [Signature]
DATE 2/25/2014
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INITIALS/SIG.
DATE



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, D.C. 20590

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Sincerely,

Duane Pfund
International Standards Coordinator
Standards and Rulemaking Division

Leary
§ 172.101
§ 173.309
Proper Shipping Name
13-0236

KOMATSU
Komatsu America Corporation

2300 N. E. Adams Street
P. O. Box 240
Peoria, Illinois 61650-0240
Phone: (309) 672-7713

U.S. DOT
PHMSA Office of Hazardous Materials Standards
Attn: PHH-10
East Building
1200 New Jersey Avenue, SE.
Washington, DC 20590-0001

RE: Request for formal written letter of interpretation - proper shipping name and label for Tyco Ansul Redline Fire Extinguisher with Nitrogen Cartridge

December 5, 2013

To Whom It May Concern:

This is a request for a formal written letter of interpretation for Komatsu America Corp. – Peoria Manufacturing Operation from the U.S. DOT PHMSA Office of Hazardous Materials to correctly identify the proper shipping name and labeling of the Tyco Ansul Redline Fire Extinguisher model number I-A-20-G-1 with Nitrogen Cartridge model number LT-20.

The fire extinguisher and nitrogen cartridge can be shipped as separate units. However, in this case the two are “manifolded” together and shipped as one unit. The fire extinguisher and nitrogen cylinder proper shipping name and labeling when each unit is shipped as a separate unit is not in question. When the two are shipped as one functional unit, fire extinguisher with nitrogen cartridge (used in extreme low temperature climates), there is a discrepancy as to the proper shipping name and label.

This was first called into question when the package was at a port being loaded on to a vessel; the port authority requested that Komatsu properly label the package as UN1044 “Fire Extinguisher, *containing compressed gas*,” not as UN1066 “Nitrogen, compressed.” Upon internal investigation, Komatsu discovered that the fire extinguisher in question was being received from the distributor labeled as UN1066 “Nitrogen, compressed.”

Komatsu contacted the DOT Central Region Field Office to request an informal interpretation for the correct proper shipping name and label. Please see the attached response from Central Region Investigator, Laura Kwilinski. The Central Region office was in agreement with the port authority that the proper shipping name and label is UN1044 “Fire Extinguisher, *containing compressed gas*.”

Komatsu has complied with this decision for shipments going out. However, we have requested that the fire extinguishers be properly labeled when received from the supplier Tyco. Tyco is requesting a formal interpretation before they make this change. For more information on the history of this inquiry and specific details about the fire extinguisher please see the attached documents.

If you have further questions please contact Komatsu’s Environmental Consultant, Kate Pastucha at 309-635-7417 or kpastucha@elmlc.com.

Sincerely,



Roxanna Marchand
Manager, Orders & Distribution



Nitrogen Cartridges Information
Brohmer, Dennis

to:

kpastucha@komatsuna.com

10/16/2013 01:49 PM

Hide Details

From: "Brohmer, Dennis" <dbrohmer@tycoint.com>

To: "kpastucha@komatsuna.com" <kpastucha@komatsuna.com>,

Dear Kate,

Thank you for contacting Tyco Fire Protection Products Technical Services Department. It was my pleasure speaking with you this afternoon. Hopefully this e-mail will better assist you in reference to the cartridge information about the Ansul LT-20- cartridge. There is no data sheet specifically for cartridges. Cartridges are a component of the Ansul REDLINE Cartridge Operated Fire Extinguisher. Tyco Fire Protection Products only produces data sheets on complete finished product not individual components.

Ansul filled cartridges can last for many years as long as they are weighed each year and they weigh within the weight limitations stamped on the cartridge. Ansul N2 hand portable cartridges are exempt from DOT re-hydrostatic testing due to the size and length of the cartridges, DOT CFR-49, Part 180.209 (6) (b) (2).

If the Ansul N2 cartridge weighs within the tolerances specified according to the recharge manual, they can go back into service without re-hydrostatic testing at any test year interval, as long as the cartridges are free of corrosion and damage.

If the weight is 1/4 oz. (7.1 g) for a Model 10 or 1/2 oz.(14.2 g) for Models 20/30 less than stamped on the cartridge, replace with full cartridge. Cartridges which weigh more than 1/8 oz

(3.6 g) over stamped weight should also be replaced.

Ansul REDLINE Cartridge Operated Fire Extinguishers with CO2 cartridges are UL Listed to -40 Degrees F to +120 Degrees F. Ansul REDLINE Extinguishers with N2 cartridges are UL Listed to -65 Degrees F to +120 Degrees F. UL's high end temperature listings stop at 120 Degrees F.

Below is cartridge information you may want to keep for future reference. The information explains the differences between CO2 & N2 cartridges.

20 Nitrogen

Screw size (thread) and type: Right Handed 3/4 - 20

Diameter of Cylinder 2 1/2"

Pressure of 1800 psi

Cartridge Size: Volume of H2O grams @ +70 = 427 to 443 / Weight of N2 Charge. = 2-3/16 to 2-7/16 ounces of Nitrogen

Price Ansul List Price \$ 64.50

Maximum safe operating temperature -65 F to +120 F

Best Regards,

Dennis D. Brohmer CET | Technical Services - Applications Specialist | Tyco Fire Protection Products
One Stanton Street, Marinette, WI 54143 - USA
Tel: +1-715-735-7411 x73558 | Fax: +1-715-732-3479
dbrohmer@tycoint.com

*N2 cylinder
3E-1800*

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Kate,

Just wanted to let you know I heard back from our standards office, the email is below.

Looks like just labeling it a UN1044 fire extinguisher will be sufficient or you may add the containing compressed gas.

Please let me know if you have any other questions and thank you for being patient.

Laura
Laura Kwilinski
Investigator, Central Region
Office of Hazardous Materials Safety, Field Operations
Pipeline and Hazardous Materials Safety Administration
United States Department of Transportation
2300 East Devon Avenue, Suite 478
Des Plaines, IL 60018-4696
847-294-8580
Fax (202) 403-3934

From: Betts, Charles (PHMSA)
Sent: Wednesday, October 23, 2013 1:50 PM
To: Kwilinski, Laura (PHMSA)
Cc: Chaney, Wayne (PHMSA); Clatterbuck, Robert (PHMSA); Wills, Kipton (PHMSA); Foster, Glenn (PHMSA); Benedict, Robert (PHMSA); Supko, Ben (PHMSA); Billings, Delmer (PHMSA)
Subject: RE: Question for classification of a fire extinguisher
Importance: High

Laura-

We are okay with either of the recommended proper shipping descriptions for UN1044 as indicated in your email below.

Thanks,
Charles

From: Kwilinski, Laura (PHMSA)
Sent: Wednesday, October 23, 2013 11:00 AM
To: Betts, Charles (PHMSA)
Cc: Chaney, Wayne (PHMSA); Clatterbuck, Robert (PHMSA); Wills, Kipton (PHMSA)
Subject: Question for classification of a fire extinguisher

Charles,

The question has been brought up to our office asking what is the proper shipping name for the fire extinguisher that has an extra nitrogen or CO2 cylinder attached.

I have attached the information sheet for this cylinder.

It is a non-DOT fire extinguisher that has a 3B or a 3A cylinder attached (basically manifolded for lack of a better term) to the main non-DOT cylinder for use in cold weather. The 3B1800 cylinder has CO2 in the cylinder, and the 3A2100 has nitrogen.

It functions as one unit (or kit) and is assembled and ready to go when shipped. The manufacture states all you have to do is push one button, and the nitrogen or CO2 is released into the main cylinder and the product is released.

Because of the way it is designed and functions, I would say that the proper shipping description would be UN1044, Fire Extinguisher, 2.2. or would it be better to say UN1044, Fire Extinguisher containing compressed gas, 2.2? I don't think it should be 1066, Nitrogen or 1013, Carbon Dioxide unless the 3B or 3A cylinders were being shipped individually. Because they are a part of the complete fire extinguisher, then I would think UN1044 would be the best selection for the item.

Please let me know if you have any additional questions.

Thank you,
Laura

Laura Kwilinski
Investigator, Central Region
Office of Hazardous Materials Safety, Field Operations
Pipeline and Hazardous Materials Safety Administration
United States Department of Transportation
2300 East Devon Avenue, Suite 478
Des Plaines, IL 60018-4696
847-294-8580
Fax (202) 403-3934



A Tyco International Company

RED LINE HAND PORTABLE EXTINGUISHERS MODELS 5, 10, 20, 30

Data/Specifications

FEATURES

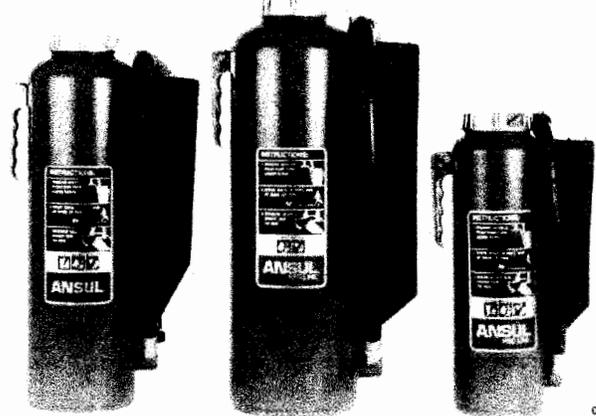
- Rugged, durable, reliable fire protection
- Ergonomically designed for maximum operator performance
- Meets or exceeds requirements of ANSI/UL 299 and 711, or ULC S504 and S508
- USCG approved with proper bracket
- Simple and safe operation
- Maintenance checks can be easily made on every moving part
- Field rechargeable
- Four sizes (5, 10, 20 and 30) available with many options to suit your needs
- Field replacement metal cartridge guard option available for 20 and 30 pound extinguishers.
- Choice of dry chemical agents to satisfy specific protection requirements
- First response fire fighting training available at the ANSUL Fire School or through trained distributors
- Manual, parts lists and training video tapes available
- Twelve-year limited warranty
- Sold and serviced through our network of independent distributors in every state and most countries throughout the world

APPLICATION

RED LINE dry chemical extinguishers are designed for the protection of ordinary and high risk hazards. This hand portable extinguisher is used in industries where the occurrence or possibility of fire is high. The RED LINE extinguisher has set the standard for reliable fire protection in many industries and applications including refining, petrochemical, oil and natural gas production, mining, transportation, utilities, metal processing, paint process areas, welding areas, material storage areas and many others.

DESCRIPTION

- The rugged dry chemical shell is a three piece steel assembly consisting of a seamless welded tube with a spun top, a bottom closure and a machined collar.
- Forged, non-slip aluminum handle positions the extinguisher at optimum 45° angle for easy carrying.
- Each finished shell assembly is hydrostatically tested at three times the operating pressure (600 psi (41.4 bar)) and is designed to withstand a pressure of no less than six times the normal operating pressure.
- UL/ULC listing mark, rating and model information are permanently marked on the fill collar using dot matrix marking technology.
- Cartridge receiver is made of cast aluminum with a stainless steel insert to prevent thread wear.
- Stainless steel puncture pin is sealed with impregnated felt washers which seal against moisture and provide lubrication to the pin.
- Large three-inch fill opening allows for fast and easy recharge.
- Large forged aluminum fill cap with indicator seals the shell, protecting the agent from contamination. A tamper seal may also be attached to the fill cap to prevent tampering with the agent.



003659

- Flat gasket and quad ring on fill cap provide a gas and moisture tight seal.
- Handle is spring loaded to prevent movement during vibration.
- Hanger attachment is located on extinguisher to allow for easy removal from wall bracket.

- Split nameplates are etched aluminum with a varnish coating to provide durability, readability and corrosion resistance.



003662

- The front operating nameplate has easy to understand instructions and pictograms for the inexperienced operator.
- The back maintenance nameplate contains after-use and maintenance information, model bar code, along with approvals and other pertinent information.

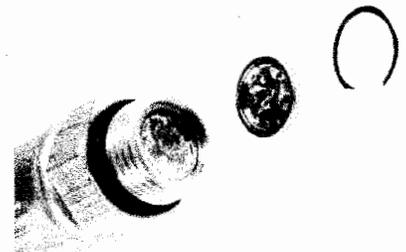
- Standard models are equipped with CO₂ cartridges and receivers which are listed and approved for operation in environments with temperatures between -40 °F to 120 °F (-40 °C to 48.8 °C).

- Hose couplings are corrosion resistant aluminum alloy. The shell connection coupling is equipped with an O-ring to provide a proper seal.

- Shell connection coupling is internally machined to accept an inspection seal and retaining ring.

- Nozzle body is cast aluminum with component parts of stainless steel and other corrosion resistant materials.

- Nozzle plunger assembly is provided with two guide bushings to assure proper seating when used with intermittent discharge, thus providing gas and water tightness.



003663

DESCRIPTION (Continued)

- Nozzle design directs the nozzle body downward when the nozzle is squeezed thus directing the agent stream at the base of the fire and increasing the chance of extinguishment.
- Nozzle tips feature a converging-diverging design to give an expanded round stream of dry chemical.
- The steel gas tube is designed with two rubber check valves clamped in place. The check valves, which cover the gas discharge holes, produce multidirectional gas streams to fluidize the dry chemical agent.
- Agent outlet elbow is machined from low carbon steel barstock and allows for maximum discharge of the dry chemical when the extinguisher is held at the normal 45° angle.
- Discharge hose is ethylene propylene diamine and is UL 92 approved for use at temperatures of -65 °F to +120 °F (-54 °C to 49 °C).
- Completed assembly is subjected to a final production air test of 240 psi (16.6 bar) and stamped to indicate year of manufacture.

- Expellent gas cartridges are fabricated of one-piece spun steel in accordance with DOT 3E-1800 (Carbon Dioxide) or DOT 3A-2100 (Nitrogen) and Transport Canada (TC) specifications.

Note: The Model 5 and Model 10 cartridges with two-piece construction are exempt from DOT requirements (due to volume) and are made in accordance with UL/ULC specifications.

- Cartridges are sealed with a brass seal assembly utilizing a copper seat. The seal assembly has "ANSUL" printed on it indicating the seal meets or exceeds ANSUL quality levels and UL/ULC requirements.
- Carbon dioxide cartridge seal has a safe rupture pressure range of 4050 to 4500 psi (279 to 310 bar) in a temperature range of 195 °F to 210 °F (91 °C to 99 °C).



003664

Model	I-10-G-1	I-A-10-G-1	I-K-10-G	I-20-G-1
Agent	PLUS-FIFTY C	FORAY	Purple-K	PLUS-FIFTY C
Capacity	10 lb (4.5 kg)	8.5 lb (3.7 kg)	9 lb (4.1 kg)	20 lb (9.1 kg)
UL/ULC Rating	40-B:C	4-A:40-B:C	60-B:C	60-B:C
Coast Guard Classification	Type B:C, Size II	Type A, Size II Type B:C, Size I	Type B:C, Size II	Type B:C, Size III
Discharge Time	15 sec	15 sec	19 sec	22 sec
Flow Rate	0.62 lb/sec (0.28 kg/sec)	0.50 lb/sec (0.22 kg/sec)	0.53 lb/sec (0.24 kg/sec)	0.90 lb/sec (0.40 kg/sec)
Effective Range	21 ft (6.4 m)	17 ft (5.2 m)	25 ft (7.6 m)	24 ft (7.3 m)
Nozzle Stream	Expanding	Expanding	Expanding	Expanding
Options				
• Low Temperature (to -65 °F (-54 °C))	X	X	X	X
• Corrosion Resistant	N/A	X	X	X
• Ring Pin	X	X	X	X
• High Flow	N/A	N/A	N/A	N/A
Flow Rate	-	-	-	-
Effective Discharge Time	-	-	-	-
Range	-	-	-	-
Rating	-	-	-	-
Approvals	UL, ULC, FM, USCG**	UL, ULC, FM, USCG**	UL, ULC, FM, USCG**	UL, ULC, FM, USCG**
Brackets				
• Multipurpose***	14228	14228	14228	14091
• Heavy Duty***	30886	30886	30886	30759
• Heavy Duty Ring Pin***	N/A	N/A	N/A	15665
Charged Weight	22 lb (10.0 kg)	20.5 lb (9.3 kg)	21 lb (9.5 kg)	38 lb (17.2 kg)
Dimensions: Height	16.1 in (40.9 cm)	16.1 in (40.9 cm)	16.1 in (40.9 cm)	20.5 in (52.1 cm)
Width	8.3 in (20.9 cm)	8.3 in (20.9 cm)	8.3 in (20.9 cm)	10.4 in (26.4 cm)
Depth	5.3 in (13.3 cm)	5.3 in (13.3 cm)	5.3 in (13.3 cm)	7.0 in (17.8 cm)
Hose ID	0.4 in (0.9 cm)	0.4 in (0.9 cm)	0.4 in (0.9 cm)	0.5 in (3 cm)
Hose Length	26.6 in (67.6 cm)	26.6 in (67.6 cm)	26.6 in (67.6 cm)	31.6 in (80.3 cm)
Shell OD	4.9 in (12.4 cm)	4.9 in (12.4 cm)	4.9 in (12.4 cm)	6.0 in (15 cm)
Fire Suppression Capability*				
Novice Operator	30 ft ² (2.8 m ²)	40 ft ² (3.7 m ²)	60 ft ² (5.6 m ²)	40 ft ² (3.7 m ²)
Experienced Operator	75 ft ² (6.9 m ²)	100 ft ² (9.3 m ²)	150 ft ² (13.9 m ²)	100 ft ² (9.3 m ²)

* Underwriters Laboratories classifies a "novice operator" as one who has little or no experience in operating a fire extinguisher.

** U.S.C.G. Approved only with bracket

*** Corrosion resistant epoxy painted brackets also available.

Low temperature nitrogen cartridge seal has a safe rupture pressure range of 3150 to 3500 psi (217 to 241 bar) in a temperature range of 195 °F to 210 °F (91 °C to 99 °C).

- Painted steel parts are prepared by going through a series of surface preparation steps, including degreasing, an acid pickling process, zinc phosphate bonding and non-chromate sealing.
- The parts are then painted using an electrostatically applied polyester powder coating and oven cured.
- Cartridge guard is made of a composite consisting of fiber filled, polypropylene and various additives to resist UV degradation and maintain strength and integrity.
- Composite guard is designed with the nozzle holster as an integral part of the one piece construction. It contains a hose retainer tab which can be used to attach the visual inspection seal. The guard is designed to prevent its removal unless the inspection seal is broken.



003665

I-A-20-G-1	I-K-20-G	I-30-G-1	I-A-30-G-1	I-K-30-G
FORAY	Purple-K	PLUS-FIFTY C	FORAY	Purple-K
17 lb (7.7 kg)	18 lb (8.2 kg)	30 lb (13.6 kg)	25 lb (11.3 kg)	27 lb (12.3 kg)
6-A:60-B:C	80-B:C	80-B:C	10-A:80-B:C	120-B:C
Type A, Size II Type B:C, Size II	Type B:C, Size III	Type B:C, Size IV	Type A, Size II Type B:C, Size III	Type B:C, Size IV
22 sec	21 sec	32 sec	26 sec	27 sec
0.77 lb/sec (0.35 kg/sec)	0.89 lb/sec (0.40 kg/sec)	0.87 lb/sec (0.39 kg/sec)	0.89 lb/sec (0.40 kg/sec)	0.99 lb/sec (0.45 kg/sec)
20 ft (6.1 m)	30 ft (9.1 m)	23 ft (7.0 m)	20 ft (6.1 m)	30 ft (9.1 m)
Expanding	Expanding	Expanding	Expanding	Expanding
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	N/A	X	X
1.55 lb/sec (0.70 kg/sec)	1.55 lb/sec (0.70 kg/sec)	-	2.10 lb/sec (0.95 kg/sec)	2.35 lb/sec (1.10 kg/sec)
12 sec	12 sec	-	12 sec	12 sec
15-20 ft (4.6 - 6.1 m)	15-20 ft (4.6 - 6.1 m)	-	15-20 ft (4.6 - 6.1 m)	15-20 ft (4.6 - 6.1 m)
1-A:20-B:C	20-B:C	-	1-A:20-B:C	20-B:C
UL, ULC, FM, USCG**				
14091 30759 15665	14091 30759 15665	14098 30889 25428	14098 30889 25428	14098 30889 25428
35 lb (15.9 kg)	36 lb (16.3 kg)	54.5 lb (24.7 kg)	49.5 lb (22.5 kg)	51.5 lb (23.4 kg)
20.5 in (52.1 cm) 10.4 in (26.4 cm) 7.0 in (17.8 cm)	20.5 in (52.1 cm) 10.4 in (26.4 cm) 7.0 in (17.8 cm)	22.5 in (57.2 cm) 11.1 in (28.3 cm) 8.0 in (20.3 cm)	22.5 in (57.2 cm) 11.1 in (28.3 cm) 8.0 in (20.3 cm)	22.5 in (57.2 cm) 11.1 in (28.3 cm) 8.0 in (20.3 cm)
0.5 in (1.3 cm)	0.5 in (1.3 cm)	0.6 in (1.6 cm)	0.6 in (1.6 cm)	0.6 in (1.6 cm)
31.6 in (80.3 cm)	31.6 in (80.3 cm)	35.6 in (90.5 cm)	35.6 in (90.5 cm)	35.6 in (90.5 cm)
6.0 in (15 cm)	6.0 in (15 cm)	7.0 in (17.5 cm)	7.0 in (17.5 cm)	7.0 in (17.5 cm)
60 ft ² (5.6 m ²) 150 ft ² (13.9 m ²)	80 ft ² (7.4 m ²) 200 ft ² (18.6 m ²)	60 ft ² (5.6 m ²) 150 ft ² (13.9 m ²)	80 ft ² (7.4 m ²) 200 ft ² (18.6 m ²)	120 ft ² (11.1 m ²) 300 ft ² (27.9 m ²)

OPTIONS

ANSUL offers a wide array of options to customize the extinguisher to meet your needs. For some users, these options have become the standard for RED LINE extinguishers.

Corrosion Resistant (CR) Models

- In addition to the standard surface preparation procedures, the steel parts are primed using a zinc rich primer with a minimum zinc content of 90%.
- The top coat is a polyester paint applied as a powder and oven cured. The dry film is continuous and is a minimum thickness of 1.5 mils.
- The hose couplings, fill cap, carrying handle, nozzle body, nozzle lever, nozzle tip and cartridge receiver push lever are black anodized for added corrosion resistance.
- The cartridge receiver body is painted with an epoxy paint for added protection in corrosive environments.

Ring Pin (RP) Models

- The ring pin, when inserted in the cartridge receiver, provides secondary protection against accidental actuation of the unit when the hose is not in place.
- The operating instruction nameplate notes the removal of ring pin before actuation of the extinguisher.

Low Temperature (LT) Models

- The LT model is equipped with a nitrogen cartridge and cartridge receiver which is listed and approved for operation in environments with temperatures as low as -65°F (-54°C).

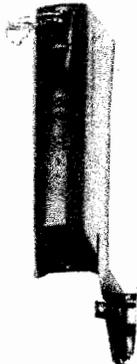
High Flow (HF) Models

- Extinguisher is equipped with a special nozzle and nozzle tip to maximize agent flow rates.
- Nozzle handle is painted red to differentiate it from standard flow extinguishers.

Note: The high flow extinguishers have been designed for pressurized flammable liquids and pressurized gas fires and other special hazards where agent flow rate is crucial to extinguishment. (Reference NFPA 10, Paragraph 5.5.1.1.1 and 5.5.1.1.2.) The high flow extinguishers can also extinguish other types of fire.

Metal Cartridge Guard

- Metal cartridge guard is available as a distributor installed option on models 20 and 30 lb extinguishers.



003067

RED LINE Model 5 Extinguisher Features

- Internal Cartridge
- Compact
- Dimensions – (H) 19 in (48 cm)
(W) 5 1/2 in (14 cm)
(D) 5 1/2 in (14 cm)
- Ratings (UL/ULC)
FORAY Agent: 2-A:10-B:C
PLUS FIFTY C Agent: 10-B:C
Purple K Agent: 20-B:C
- Many of the same design features and testing requirements as Models 10, 20, and 30.



003866

AGENTS

FORAY Dry Chemical

A monoammonium phosphate-based agent for use on Class A (wood, paper cloth), Class B (flammable liquids and gases), and Class C (electrical) fires.

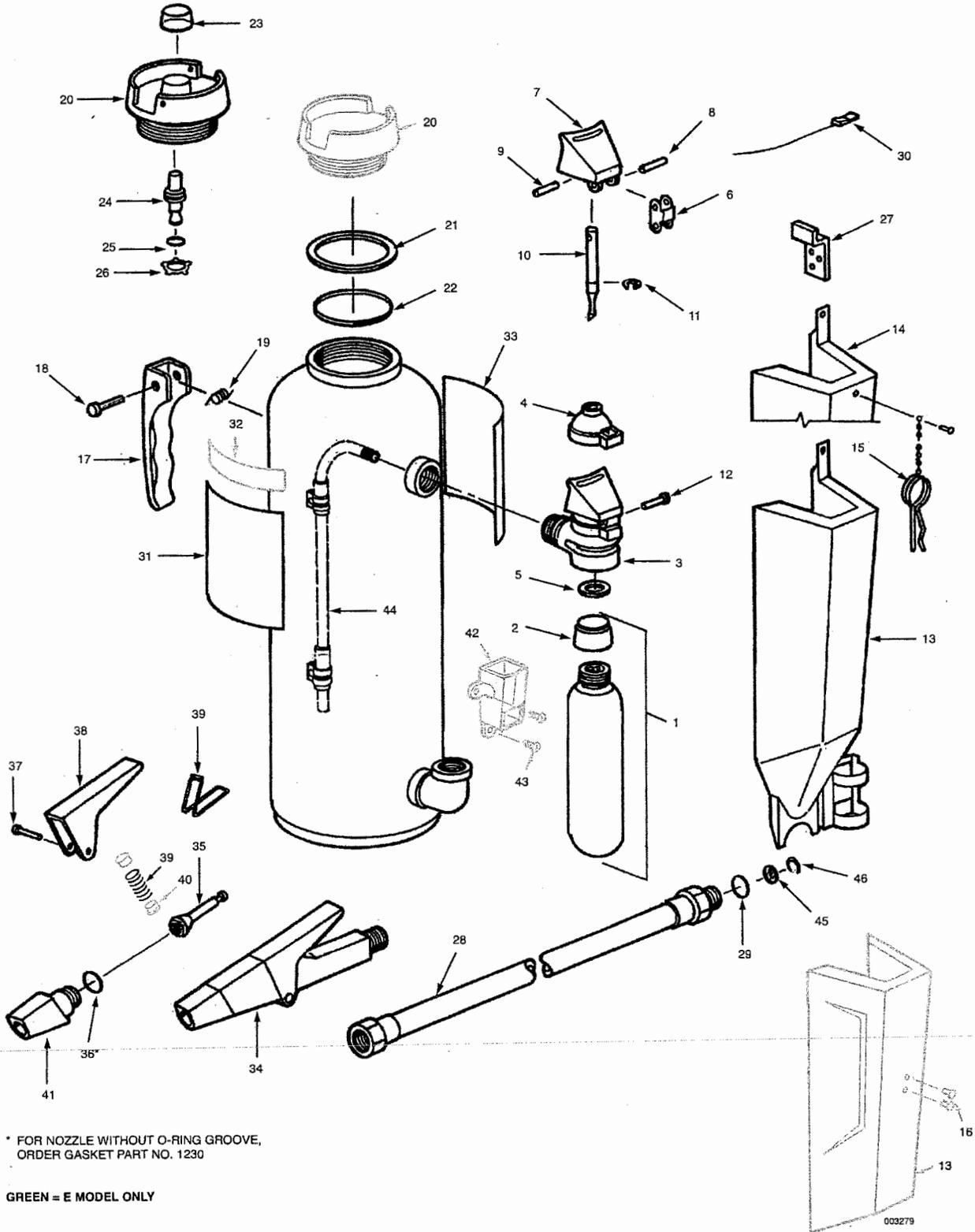
Purple-K Dry Chemical

A potassium bicarbonate-based agent which is the most effective ANSUL agent for knock-down of Class B (flammable liquids and gases) and Class C (electrical) fires.

PLUS-FIFTY C Dry Chemical

A sodium bicarbonate-based agent for use on Class B (flammable liquids and gases) and Class C (electrical) fires.

RED LINE® FIRE EXTINGUISHER PARTS



* FOR NOZZLE WITHOUT O-RING GROOVE,
ORDER GASKET PART NO. 1230

GREEN = E MODEL ONLY

003279

RED LINE® FIRE EXTINGUISHER PARTS

MODELS 20-E AND 20-G

Fig. No.	Description	Part No.	Fig. No.	Description	Part No.
1	Cartridge w/Cap, CO2, 20-L (E/G)	4614	27	Hanger Hook (E/G)	3651
1	Cartridge w/Cap, N2, LT-20-R (E/G)	7032	28	Hose w/Couplings, Std (E/G)	7091
2	Cartridge Shipping Cap, LH (E/G)	77250	28	Hose w/Couplings, CR (E/G)	24459
2	Cartridge Shipping Cap, RH (E/G)	77251	29	O-Ring (E/G)	6323
3	Cartridge Receiver, RH (E/G)	1356	30	Inspection Seal, Visual (E/G)	15999
3	Cartridge Receiver, LH (E/G)	3626	31	Nameplate, Operating, Replacement	Pg. 64
3	Cartridge Receiver, CR, LH (E/G)	17913	32	Label, Low Temperature (E Only)	25167
4	Cap, Rubber (E/G)	1057	33	Nameplate, Maintenance, Replacement w/o UL	Pg. 64
5	Gasket, Cartridge Receiver (E/G)	181	34	Nozzle Assembly, PLUS-FIFTY Std, (E/G)	14551
6	Link, Cartridge Receiver (E/G)	1068	34	Nozzle Assembly, LT-A (E/G)	14382
7	Puncture Lever, Std (E/G)	3628	34	Nozzle Assembly, HF-A, HF-K (E/G)	15156
7	Puncture Lever, CR (E/G)	17915	34	Nozzle Assembly, PLUS-FIFTY CR (E/G)	17905
8	Spring Pin, Link to Puncture Lever (E/G)	4108	34	Nozzle Assembly, A & K/LTK Std (E/G)	30789
9	Spring Pin, Puncture Lever to Puncture Pin (E/G)	4109	34	Nozzle Assembly, CR-A, CR-K, CR-LTK (E/G)	30817
10	Puncture Pin (E/G)	25305	35	Nozzle Plunger (E/G)	56117
11	Retaining Ring (E/G)	1903	36	O-Ring, Nozzle Assembly (E/G)	3469
12	Rivet, Link to Cartridge Receiver (E/G)	6286	37	Rivet, Nozzle Handle (E/G)	3621
13	Cartridge Guard, Composite, Std (G Only)	416346	38	Handle, Nozzle Assembly, Std (G Only)	419389
13	Cartridge Guard, Composite, LT (G Only)	416524	38	Handle, Nozzle Assembly, CR (G Only)	423461
13	Cartridge Guard, Metal (G Only)	426447	38	Handle, Nozzle Assembly, CR (E Only)	419389
13	Cartridge Guard, Metal, Std (E Only)	6302	38	Handle, Nozzle Assembly, HF (G Only)	426629
13	Cartridge Guard, Metal, CR (E Only)	17917	38	Handle, Nozzle Assembly, HF (E Only)	6580
13	Cartridge Guard, Metal, LT (E Only)	6967	39	Spring, Nozzle Handle (G Only)	419422
14	Ring Pin Cartridge Guard, Composite (G Only)	416347	39	Spring, Nozzle Handle (E Only)	30399
14	Ring Pin Cartridge Guard, Metal (G Only)	426450	40	Caplug (2) (E Only)	25154
14	Ring Pin Cartridge Guard, Metal (E Only)	7097	41	Tip, Nozzle Assembly, LT-A/CR-LT-A, MLKYL	17932
15	Ring Pin and Chain Assembly (E/G)	7095	41	Tip, Nozzle Assembly, LT-A, LT-K (E/G)	25778
16	Rivet, Cartridge Guard (E Only)	6579	41	Tip, Nozzle Assembly, HF-A, HF-K (E/G)	25780
17	Carrying Handle, Std (E/G)	6169	41	Tip, Nozzle Assembly, PLUS-FIFTY Std, (E/G)	17908
17	Carrying Handle, CR (E/G)	17902	41	Tip, Nozzle Assembly, A & K Std (E/G)	30790
18	Carrying Handle Rivet (E/G)	1265	42	Nozzle Holder Assembly (E Only)	74206
19	Carrying Handle Spring (E/G)	2902	43	Nozzle Platform Screw (2) (E Only)	14908
20	Fill Cap w/Indicator, Std (E/G)	17999	44	Gas Tube Assembly (E/G)	6317
20	Fill Cap w/Indicator, CR (E/G)	422808	45	Hose Seal (Pkg of 30) (G Only)	415660
20	Fill Cap w/o Indicator, Std (E Only)	32028	46	Retaining Ring (Pkg of 50) (G Only)	415856
20	Fill Cap w/o Indicator, CR (E Only)	17903	-	Extinguisher Weather Cover (Not Shown) (E/G)	67637
21	Gasket, Fill Cap (E/G)	6190	-	Gasket Kit (Quad, Flat Gasket, Hose O-Ring)	415877
22	Quad Ring, Fill Cap (E/G)	6273	-	Hose Inspection Kit (Seal, Retainer Clip)	426688
23	Cap, Plastic (E/G)	17633			
24	Stem, Indicator (E/G)	27648			
25	Quad Ring (E/G)	17630			
26	Retaining Ring (E/G)	1239			

N/A = Not Available



MATERIAL SAFETY DATA SHEET

by Tyco Fire Suppression & Building Products

FORAY

Product Code: 2001-2-015 ANa

Issue Date: 07-30-2010

1. Product and Company Identification

Material name	FORAY
Version #	01
Revision date	07-30-2010
CAS #	Mixture
Product Code	2001-2-015 ANa
Product use	Fire extinguishing agent
Manufacturer / Importer / Supplier	
Name	Tyco Fire Suppression and Building Products
Address	One Stanton Street Marinette, WI 54143-2542
Phone	715-735-7411
Internet	http://www.ansul.com
Emergency Phone Number	CHEMTREC 800-424-9300 or 703-527-3887

2. Hazards Identification

Emergency overview	WARNING Irritating to eyes and skin.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Eye contact. Skin contact. Inhalation. Ingestion.
Eyes	Avoid contact with eyes. Contact with eyes may cause irritation.
Skin	Avoid contact with the skin. May cause skin irritation.
Inhalation	Inhalation of dusts may cause respiratory irritation.
Ingestion	Not a likely route of entry.
Target organs	Eyes. Respiratory system. Skin.
Signs and symptoms	Irritation of eyes and mucous membranes.

3. Composition / Information on Ingredients

Hazardous components	CAS #	Percent
CALCIUM CARBONATE	471-34-1	1 - 2.5
Non-hazardous components	CAS #	Percent
Pigment Yellow 14	5468-75-7	0 - 0.1
Silicone fluid	63148-57-2	0.1 - 1
FULLERS EARTH	8031-18-3	2.5 - 10
Ammonium Sulfate	7783-20-2	10 - 20
Ammonium Phosphate	7722-76-1	60 - 80

4. First Aid Measures

First aid procedures	
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.

Skin contact	Wash off with warm water and soap. Get medical attention if irritation develops and persists.
Inhalation	Move to fresh air. Get medical attention, if needed.
Ingestion	Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Notes to physician	Symptoms may be delayed.
General advice	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties	No unusual fire or explosion hazards noted.
Extinguishing media	
Suitable extinguishing media	This product is not flammable. Use extinguishing agent suitable for type of surrounding fire.
Protection of firefighters	
Specific hazards arising from the chemical	None known.
Hazardous combustion products	Carbon monoxide and carbon dioxide.

6. Accidental Release Measures

Personal precautions	Local authorities should be advised if significant spillages cannot be contained. Avoid inhalation of dust from the spilled material. Wear a dust mask if dust is generated above exposure limits.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for containment	If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Should not be released into the environment. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid dust formation. Following product recovery, flush area with water.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling	Keep formation of airborne dusts to a minimum. Do not breathe dust. Avoid contact with eyes. Do not use in areas without adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling.
Storage	Keep container tightly closed. Guard against dust accumulation of this material. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

U.S. - OSHA

Components	Type	Value	Form
CALCIUM CARBONATE (471-34-1)	PEL	5.0000 mg/m ³	Respirable fraction.
		15.0000 mg/m ³	Total dust.
	TWA	5.0000 mg/m ³	Respirable fraction.
		15.0000 mg/m ³	Total dust.

Engineering controls	Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	
Eye / face protection	Do not get in eyes. Chemical goggles are recommended.
Skin protection	No special protective equipment required.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
General hygiene considerations	Do not get in eyes.

9. Physical & Chemical Properties

Appearance

Form	Powder.
Color	Yellow.
Odor	Odorless.

Physical state

Solid.

pH

Not available.

Melting point

Not available.

Freezing point

Not available.

Boiling point

Not available.

Flash point

Not available.

Evaporation rate

Not available.

Flammability limits in air, upper, % by volume

Not available.

Flammability limits in air, lower, % by volume

Not available.

Vapor pressure

Not available.

Vapor density

Not available.

Specific gravity

Not available.

Relative density

Not available.

Solubility (water)

Not available.

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature

Not available.

VOC

Not available.

10. Chemical Stability & Reactivity Information

Chemical stability

Material is stable under normal conditions.

Incompatible materials

Strong acids.

Hazardous decomposition products

Carbon oxides.

11. Toxicological Information

Toxicological information

The toxicity of this product has not been tested.

Toxicological data

Components

Test Results

CALCIUM CARBONATE (471-34-1)

Acute Oral LD50 Rat: 6450 mg/kg

Local effects

Components of the product may be absorbed into the body through the skin. Contact may irritate or burn eyes.

Chronic effects

Hazardous by OSHA criteria. Prolonged inhalation may be harmful.

Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

12. Ecological Information

Ecotoxicological data

Components

Test Results

CALCIUM CARBONATE (471-34-1)

LC50 Western mosquitofish (*Gambusia affinis*): > 56000 mg/l
96.00 Hours

Ammonium Sulfate (7783-20-2)

EC50 Water flea (*Ceriodaphnia dubia*): 52 - 67 mg/l 48.00
hours

LC50 Pink salmon (*Oncorhynchus gorbuscha*): 0.068 mg/l
96.00 hours

Ecotoxicity	This material is not expected to be harmful to aquatic life.
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions	This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations.

14. Transport Information

DOT

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ammonium Phosphate (CAS 7722-76-1)	1.0 %
Ammonium Sulfate (CAS 7783-20-2)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ammonium Phosphate (CAS 7722-76-1)	Listed.
Ammonium Sulfate (CAS 7783-20-2)	Listed.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Acute Health - Yes Chronic Health - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Ammonium Sulfate (CAS 7783-20-2)

Listed.

CALCIUM CARBONATE (CAS 471-34-1)

Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 1*
Flammability: 0
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 0
Instability: 0

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Issue date

07-30-2010



MATERIAL SAFETY DATA SHEET

by Tyco Fire Suppression & Building Products

NITROGEN

Issue Date: 08-02-2010

1. Product and Company Identification

Material name NITROGEN
Version # 01
Revision date 08-02-2010
CAS # 7727-37-9
Product use Fire extinguishing agent
Manufacturer / Importer / Supplier
Name Tyco Fire Suppression and Building Products
Address One Stanton Street
Marinette, WI 54143-2542
Phone 715-735-7411
Internet <http://www.ansul.com>
Emergency Phone Number CHEMTREC 800-424-9300 or 703-527-3887

2. Hazards Identification

Emergency overview DANGER
Contents under pressure. Heat may cause the containers to explode.

OSHA regulatory status This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Eyes None known.

Skin None known.

Inhalation Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels.

Ingestion Not a likely route of entry.

Potential environmental effects Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Non-hazardous components	CAS #	Percent
NITROGEN	7727-37-9	90 - 100

4. First Aid Measures

First aid procedures

Eye contact Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Skin contact Rinse with water.

Inhalation Remove to fresh air.

Ingestion Not likely, due to the form of the product.

General advice If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties The product is not flammable. No unusual fire or explosion hazards noted.

Extinguishing media

Suitable extinguishing media This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Protection of firefighters**Specific hazards arising from the chemical**

Contents under pressure. Pressurized container may explode when exposed to heat or flame.

Specific methods

None known.

6. Accidental Release Measures

Personal precautions

None known.

Environmental precautions

No special environmental precautions required.

Methods for containment

Move the cylinder to a safe and open area if the leak is irreparable.

Methods for cleaning up

Not applicable.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Handle and open container with care.

Storage

Contents under pressure. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Personal protective equipment**Eye / face protection**

Not normally needed.

Skin protection

No special protective equipment required.

Respiratory protection

No personal respiratory protective equipment normally required.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance**Form**

Compressed gas.

Color

Colorless.

Odor

Odorless.

Physical state

Gas.

pH

Not available.

Melting point

Not available.

Freezing point

Not available.

Boiling point

-320.8 °F (-195.79 °C)

Flash point

Not available.

Evaporation rate

Not available.

Flammability limits in air, upper, % by volume

Not available.

Flammability limits in air, lower, % by volume

Not available.

Vapor pressure

Not available.

Vapor density

Not available.

Specific gravity

Not available.

Relative density

Not available.

Solubility (water)

Not available.

Partition coefficient (n-octanol/water)

0.67

Auto-ignition temperature

Not available.

Decomposition temperature

Not available.

VOC

Not available.

Molecular weight

28.01 g/mol

Molecular formulaN₂

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Excessive heat.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological Information

Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Further information	This product has no known adverse effect on human health.

12. Ecological Information

Ecotoxicity	This product has no known eco-toxicological effects.
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions	This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not applicable.
Contaminated packaging	Not applicable.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1066
Proper shipping name	Nitrogen, compressed
Hazard class	2.2
Subsidiary hazard class	2.2
Packaging exceptions	306
Packaging non bulk	302
Packaging bulk	314, 315
ERG number	121



DOT

15. Regulatory Information

US federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. CERCLA/SARA Hazardous Substances - Not applicable.
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CERCLA (Superfund) reportable quantity
None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Acute Health - No
 Chronic Health - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCs)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

NITROGEN (CAS 7727-37-9) Listed.

16. Other Information

Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 0 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 0 Flammability: 0 Instability: 0
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Issue date	08-02-2010

Drakeford, Carolyn (PHMSA)

From: INFOCNTR (PHMSA)
Sent: Monday, December 09, 2013 11:39 AM
To: Drakeford, Carolyn (PHMSA)
Subject: FW: Komatsu - requesting formal written letter of interpretaion
Attachments: Komatsu letter & attachments to US DOT - Tyco fire extinguisher 12-5-2013.pdf

Hi Carolyn,

This caller requested we submit this e-mail as a formal letter of interpretation.

Thanks,
Victoria

From: Kate Pastucha [<mailto:kpastucha@elmllc.com>]
Sent: Monday, December 09, 2013 10:33 AM
To: INFOCNTR (PHMSA)
Cc: rmarchand@komatsuna.com; pwilli@kac-peoria.com; Tom Grow; icolby@komatsuna.com
Subject: Komatsu - requesting formal written letter of interpretaion

To Whom It May Concern:

Please see the attached letter from Komatsu requesting a formal written letter of interpretation regarding the proper shipping name and labeling of Tyco Ansul Redline fire extinguisher with nitrogen cartridge.

Kate Pastucha
Compliance Specialist

ELM Energy, LLC
60 State Street, Suite 201
Peoria, Illinois 61602
Mobile: (309)635-7417
email: kpastucha@elmllc.com