



PolyFR[®] 201-2

FLAME RETARDANT CONCENTRATE

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME(S): PolyFR 201-2
PRODUCT NAME/CLASS: Non – halogenated flame retardant concentrate
CHEMICAL FAMILY: Phosphorus based flame retardant concentrate
FORMULA: Registered Trade Secret
PRODUCT USE: Flame retardant for plastics such as polyethylene
SUPPLIER/MANUFACTURER: JJI Technologies, LLC
ADDRESS: 1750 South Lane, Mandeville, LA 70471
EMERGENCY PHONE: 440-354-3919
DATE OF PREPARATION: June 29, 2011

SECTION II - COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	EINCS #	% W/V
Proprietary Amino Phosphates	Registered Trade Secret	Registered Trade Secret	45-49% w/v
Proprietary Amine A	Registered Trade Secret	Registered Trade Secret	13-16% w/v
Proprietary Amine B	Registered Trade Secret	Registered Trade Secret	2-4% w/v
Polyethylene Polymer	25087-34-7	Not applicable	30-35% w/v

*All ingredients are in compliance with REACH, RoHS, and WEEE Directives.

SECTION III - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Product Description: PolyFR201-2 is a non-halogenated flame retardant plastic pellet.
Health Hazards: None known. Airborne dust generated from processing this composition may cause irritation to eyes, skin, and respiratory tract.
Flammability Hazards: None Known.
Reactivity Hazards: Avoid strong acids and oxidizing agents.
Environmental Hazards: None known.



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Emergency Recommendations:

Emergency responders should wear appropriate personal protective equipment. Caution should be used in responding to situations involving the generation of airborne dust.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Contact with this material may be irritating. The symptoms of overexposure, via route of exposure, are as follows.

SKIN CONTACT: Depending on the duration and concentration of the overexposure, skin contact may cause irritation.

EYE CONTACT: Depending on the duration and concentration of the overexposure, eye contact may cause redness and irritation.

INHALATION: Depending on the duration and concentration of the overexposure, inhalation may cause irritation to the throat and lungs.

INGESTION: Ingestion is not anticipated to be a significant route of occupational exposure.

INJECTION: Injection is not anticipated to be a significant route of occupational exposure.

OTHER POTENTIAL

HEALTH EFFECTS: None known

HEALTH EFFECTS OR RISKS FROM EXPOSURE:

ACUTE: Exposure by all routes may irritate exposed tissue.

CHRONIC: No known chronic effects.

TARGET ORGANS: Skin, eyes, respiratory tract.

SECTION IV - FIRST AID MEASURES

SKIN CONTACT: Remove contaminated clothing including shoes, and wash skin with plenty of soap and water. Seek medical attention. Wash contaminated clothing and shoes before reuse.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Seek medical attention.

INHALATION: Remove from further exposure. Keep warm and at rest. Seek medical attention.

INGESTION: Wash mouth out with water and keep at rest. Seek medical attention.

MEDICAL CONDITIONS AGGRAVATED

BY EXPOSURE: Pre-existing eye, skin, and respiratory disorders may be aggravated by exposure to fumes or vapors of this product. Existing allergies may increase the chance of developing increased allergy symptoms.



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SECTION V - FIRE FIGHTING MEASURES

FLASH POINT: Not applicable.
AUTO IGNITION TEMP: Not applicable.

		NFPA RATING
FLAMMABILITY LIMITS	LOWER: Not applicable.	1
(In air by volume %):	UPPER: Not applicable.	0
		0

EXTINGUISHING MEDIA: Use appropriate extinguisher for surrounding fire.

**UNUSAL FIRE AND
EXPLOSION HAZARDS:** None known.

**SPECIAL FIRE FIGHTING
PROCEDURES AND
PRECAUTIONS:** Not applicable.

SECTION VI - ACCIDENTAL RELEASE MEASURES

**SPILL OR LEAK
RESPONSE:** Uncontrolled releases should be responded to by trained personnel using pre-planned procedures.
Proper protective equipment should be used. Monitor the area for dusts of this product and the level of oxygen. Monitoring must indicate that exposure levels are below those provided in Section VIII (Exposure Limits and Personal Protective Equipment) and that oxygen levels are above 19.5% before anyone is permitted in the area without Self-contained breathing Apparatus. Sweep up or vacuum spilled solid. Dispose of in accordance with applicable U. S. Federal, State, and local procedures, appropriate Canadian standards, or those of EU Member States.

SECTION VII - HANDLING AND STORAGE

**WORK AND HYGIENE
PRACTICE:** Handle in accordance with good industrial hygiene and safely practices. These practices include avoiding unnecessary exposure and removal of the product from eyes skin and clothing. Employee education and training in the safe use and handling of this product are required under the OSHA Hazard communication standard. Use with adequate ventilation.

STORAGE: Store indoors in a cool dry place. Keep containers tightly closed when not in use.



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SECTION VIII - EXPOSURE CONTROLS / PERSONAL PROTECTION

INTERNATIONAL

EXPOSURE LIMITS

FOR COMPONENTS: There are no international exposure limits established for this product.

EYE PROTECTION: Wear safety goggles or glasses with side shields.

SKIN PROTECTION: Avoid contact with skin and clothing. Use chemical resistant protective gloves such as neoprene rubber gloves, nitrile rubber gloves, cuffed butyl rubber gloves and other impermeable gloves.

BODY: Use body protection appropriate for the task.

RESPIRATORY

PROTECTION:

Avoid breathing aerosols and mists.
Use NIOSH / MSHA approved respiratory protection equipment when airborne exposure is excessive. Observe OSHA regulations for respirator use (29 CFR 1910.134).

VENTILATION:

Hazard control from vapor or spray mist is ideally performed by the use of engineering controls. General or local ventilation or isolation may prove adequate to keep airborne exposures below exposure limits; OSHA Nuisance Dust Limit of 15-mg/m³ (total) and 5-mg/m³ (respirable) & ACGIH Nuisance Dust Limit of 10-mg/m³ and 3-mg/m³ (respirable) may apply to this product.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM:	solid pellet	COLOR:	white pellets
BOILING POINT:	Not applicable	SOLUBILITY:	Negligible
VAPOR DENSITY:	Not applicable	SPECIFIC GRAVITY:	1.14
EVAPORATION RATE:	Not applicable	RELATIVE VAPOR DENSITY:	Not applicable
VAPOR PRESSURE:	Not applicable	EXPANSION RATIO:	Not applicable
MELTING POINT:	>100 C		
ODOR THRESHOLD:	Not applicable		

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guarantee analysis of any specific lot or as specifications for the product.

SECTION X - STABILITY AND REACTIVITY



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- STABILITY:** Stable under normal temperatures and pressures.
- MATERIALS TO AVOID:** This material is incompatible with strong oxidizing agents and acids.
- HAZARDOUS POLYMERIZATION:** Not expected to occur.
- CONDITIONS TO AVOID:** Avoid exposure to incompatible materials.
- DECOMPOSITION PRODUCTS:** Thermal decomposition byproducts are carbon, nitrogen, and polyphosphoric acid.

SECTION XI - TOXICOLOGICAL INFORMATION

TOXICITY DATA: No toxicology data available for the product mixture. Investigation of the structure and nature of the material suggests there are no toxic effects to humans or animals. The following are toxicity data for the proprietary components which could be potential byproducts of material breakdown.

Proprietary Amino Phosphates:

Oral LD50 (rat) >5000 mg/kg

Proprietary Amine A:

Oral LD50 (rat) 3161 mg/kg
Oral LD50 (mouse) 3296 mg/kg
Inhalation LC50 (rat) 3248 mg/kg (8-hours)
Dermal LD50 (rabbit) > 1000 mg/kg

Proprietary Amine B:

Oral LD50 (rat) 500 mg/kg
Skin absorption LD50 (rabbit) 550 mg/kg
Inhalation LC50 (rat) >58 mg/L
May cause allergic skin reactions.

GENERAL TOXICITY INFORMATION:

This product may irritate mucous membranes, upper respiratory track, skin, and eyes.

CARCINOGENIC EFFECTS:

No known significant effect or critical hazards.

IRRITANT PROPERTIES:

This product may be irritating to eyes, skin, and respiratory tract.



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REPRODUCTIVE TOXICITY INFORMATION:

Mutagenicity: Proprietary Amine B was investigated as a mutagen with inconclusive results.

BIOLOGICAL EXPOSURE INDICES (BEIs):

Currently, there are no BEIs determined for this product.

SECTION XII - ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY:

The product will slowly decompose in the environment and be metabolized.

EFFECT ON PLANTS AND ANIMALS:

No data available of the effects of the product on plants and animals in the environment.

EFFECT ON AQUATIC LIFE:

No data available on the effects of the product on aquatic life, however, the comprised propriety materials predict no significant effect.

SECTION XIII - DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste must be disposed of in accordance with applicable U. S. Federal, State, and local procedures, appropriate Canadian standards, or those of EU Member States. Empty containers must be handled with care due to product residue. Do not heat or cut empty containers with electric or gas torch.

SECTION XIV - TRANSPORTATION INFORMATION

PROPER SHIPPING NAME:	Not regulated
HAZARD CLASS OR DIVISION:	Not regulated
UN IDENTIFICATION NUMBER:	Not regulated
PACKING GROUP:	Not regulated
DOT PRODUCT RQ, Lb.:	Not regulated
HAZARD LABEL(S):	Not regulated
HAZARD PLACARD(S):	Not regulated

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not classified as



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dangerous goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is not classified as dangerous goods, per the International air Transport association.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not classified as dangerous goods, per the International Maritime Organization.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not classified by the economic Commission for Europe to be dangerous goods.

SECTION XV - REGULATORY INFORMATION

TSCA STATUS: All ingredients in this product are listed on the TSCA inventory.
CERCLA REPORTABLE QUANTITY: None
SARA TITLE III:
SECTION 302: None
SECTION 311/312: None
SECTION 313: None

SECTION XVI - OTHER INFORMATION

HMIS RATING

HEALTH HAZARD	1
FLAMMABILITY HAZARD	0
PHYSICAL HAZARD	0
PROTECTIVE EQUIPMENT	
EYES	RESPIRATORY
HANDS	BODY
SEE SECTION VIII	

Revision number: PolyFR201-2 MSDS Rev 0

WARNING: By following the directions and warnings provided with this product, the risk associated with the use of this product can be greatly reduced but never entirely eliminated. JJI Technologies, LLC makes no warranties, expressed or implied, with respect to this product and EXPRESSLY DISCLAIMS THE WARRANTY OF MERCHANTABILITY AND ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Users assume all risks in handling, using or storing this product.



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