

Pro Form Products Ltd. 604 McGeachie Drive Milton, Ontario, L9T 3Y5 Canada 905-878-4990

PRODUCT: PF 126-1 REVOLUTION LIGHTWEIGHT BODY FILLER

SECTION 01: IDENTIFICATION

Initial supplier identifier..... Pro Form Products Ltd. 604 McGeachie Drive

Milton, Ontario L9T3Y5 Tel (905) 878-4990 Fax (905) 878-1189 PF 126-1 REVOLUTION LIGHTWEIGHT BODY FILLER

Product identifier..... Recommended use and restrictions on ... Automotive.

Mixture. Health: 2 Fire: 3 Reactivity: 0. Chemical family..... NFPA rating.....

HMIS..... H: 2 F: 3 R: 0.

24 hour emergency number:....

For transportation emergencies (in Canada) call CANUTEC 1-888-226-8832 (CAN-UTEC); IN THE UNITED STATES CALL CHEMTREC 1-800-424-9300.

** For medical emergencies contact your local poison control centre **.

SECTION 02: HAZARD IDENTIFICATION



Signal Word	DANGER.
Hazard Classification	Flammable Liquid 3. Aspiration Toxicity 1. Acute Toxicity 4. Carcinogen 1A. Reproductive
	Toxicity — Category 2. Specific Target Organ Toxicity — Repeated Exposure — Category
	1.
Hazard Description	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways.
	H332 Harmful if inhaled. H350 This product contains ingredients that may cause cancer.
	H361 Suspected of damaging fertility or the unborn child. H372 Causes damage to organs
	through prolonged or repeated exposure.
Prevention	P201 Obtain special instructions before use. P202 Do not handle this product until all
	safety instructions have been read and understood. P210 Keep away from heat, sparks,
	open flames and hot surfaces. No smoking. P233 Keep container tightly closed. P240
	Ground and bond container and receiving equipment. P241 Use explosion proof
	equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against
	static discharge. P280 Wear protective gloves and eye protection. P271 Use only outdoors
	or in a well ventilated area. P260 Do not breathe mist, vapours, or spray. P264 Wash
D	thoroughly after handling. P270 Do not eat drink or smoke while using this product.
Response	P303 + P361 + P353 If on skin or in hair: take off all contaminated clothing immediately.
	Rinse thoroughly with water and use safety shower . P370 + P378 In case of fire - use dry
	chemical powder, CO2 or foam to extinguish. P301 + P310 If swallowed IMMEDIATELY
	CALL A POISON CONTROL CENTRE and follow instructions provided by the centre. P331
	Do NOT induce vomiting. P304 + P340 - If inhaled remove person to fresh air and keep
	comfortable for breathing. P312 Call a POISON CENTER/doctor if you feel unwell. P308 +
	P313 If exposed or concerned, get medical advice/attention. P314 - Get medical
Storago	advice/attention if you feel unwell.
Storage	P403 + P235 Store in well ventilated area. Keep cool. P405 Store locked up.
Disposal	P501 Dispose all unused, waste or empty containers in accordance with local regulations.

SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS			
CHEMICAL NAME AND SYNONYMS	CAS#	WT. %	
Talc	14807-96-6	30-60	
Styrene	100-42-5	10-30	
N,N-Dimethyacetamide	127-19-5	0.5-1.5	
Titanium Dioxide	13463-67-7	0.1-1	
2-Phenoxyethanol	122-99-6	0.1-1	

SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS

Crystalline silica 14808-60-7 0.1-1

SECTION 04: FIRST-AID MEASURES

SECTION 05: FIRE-FIGHTING MEASURES

Specific hazards arising from thehazardous product, such as the nature of any hazardous combustion products
Special protective equipment andprecautions for fire-fighters

"Alcohol" foam, CO2, dry chemical. In case of large fire, cool containers with water jet in order to prevent pressure build up, autoignition or explosion.

Oxides of carbon (CO, CO2). By fire: protect against potentially toxic and irritating fumes.

Firefighter should be equipped with self-contained breathing apparatus and full protective clothing to protect against potentially toxic and irritating fumes. Solvent vapours may be heavier than air and may build up and travel along the ground to an ignition source, which may result in a flash back to the source of the vapours. Cool fire-exposed containers with

cold water spray. Heat will cause pressure buildup and may cause explosive rupture.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Leak/spill.....

Isolate area and keep unauthorized people away. Do not walk through spilled material. Wear recommended protective equipment. Ventilate. Open windows and doors to allow air circulation. Dike area to prevent spreading. The use of absorbent socks or spill pillows may be required. Stop leak if safe to do so. Prevent runoff into drains, sewers, and other waterways. Cover spill with absorbent material and place in appropriate containers. Spill area can be washed with water. Collect wash water for approved disposal. Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, provincial, state, and federal regulations.

SECTION 07: HANDLING AND STORAGE

Precautions for safe handling.....

Avoid all skin contact and ventilate adequately, otherwise wear an appropriate breathing apparatus. Always adopt precautionary measures against build-up of static which may arise from appliances, handling and the containers in which product is packed. Avoid breathing vapours or mist. Keep away from heat, sparks, and open flame. Ground handling equipment. Handle and open container with care. Employees should wash hands and face before eating or drinking.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks, and open flames. Keep container closed when not in use. Store away from oxidizing and reducing materials.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	TWA	CGIH TLV STEL	PEL	SHA PEL STEL	NIOSH REL
Talc	2 mg/m3 CA ON: 2mg/kg (Not established	2 mg/m3 TWA	Not established	Not established
Styrene	20 ppm CA ON: 35ppm (7	40 ppm ΓWA), 100ppm (STEL)	100 ppm	Not established	100 ppm
N,N-Dimethyacetamide	No data 10 ppm	No data	No data	No data	No data
Titanium Dioxide	10 mg/m3 CA ON: 10 mg/m	Not established 3 (TWA)	15 mg/m3	Not established	Not established

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

	ı				1
INGREDIENTS	TWA AC	GIH TLV STEL	PEL OSHA	A PEL STEL	NIOSH REL
2-Phenoxyethanol	No data No data	No data	No data	No data	No data
Crystalline silica	Not Established	Not Established	Not Established	Not Established	Not Established
	CA ON: 0.10 mg/m	n3 (Resp) TWA			
Personal Protective Equipment Eye/type				ow airborne t sources of air rations, to capture arding industrial	

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical state	Paste.
Colour	
Odour	Hydrocarbon odour.
Odour threshold (ppm)	0.15-25 ppm (Styrene).
Vapour pressure (mm Hg)	
Vapour density (air=1)	3.6 (Styrene).
Relative Density (Specific Gravity)	8.39 lbs/USG - 1.0068.
pH	Not applicable.
Melting / Freezing point (deg C)	Not available.
Solubility	Slightly soluble in water.
Initial boiling point / boiling range (deg C).	145°C.
Evaporation rate	Not available.
Flash point (deg C), method	31. (estimated).
Auto ignition temperature (deg C)	345.
Upper flammable limit (% vol)	11.5.
Lower flammable limit (% vol)	0.9.
Partition coefficient — n-octanol/water	
VOC (less water)	
Viscosity	120,000 cps Spindle D @ 10 rpm

SECTION 10: STABILITY AND REACTIVITY

Chemical stabilityReactivity	Stable at normal temperatures and pressures. Avoid heat, sparks and flames. Explosive reactions can occur in the presence of strong oxidizing agents.
Conditions to avoid, including static	Keep away from heat. Incompatible with strong oxidizers.
discharge, shock or vibration	See hazardous combustion products section 5

SECTION 11: TOXICOLOGICAL INFORMATION

Possibility of hazardous reactions...... Will not occur under normal temperature and pressure.

INGREDIENTS	LC50	LD50
Talc	Not available	Not available
Styrene	2770 ppm 4 hr rat	5000 mg/kg rat oral
N,N-Dimethyacetamide	2475 ppm rat	4300 mg/kg oral rat; 2240 mg/kg dermal rat
Titanium Dioxide	>6.8 mg/L (4 hr)	>10,000 mg/kg (rat, oral) >10,000 mg/kg (rabbit, dermal)
2-Phenoxyethanol	No data	1260 mg/kg Oral Rat

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS LD50 LC50

Crystalline silica Not Available Not Available

Route of exposure..... Eye contact. Skin contact. Inhalation.

The aromatic hydrocarbon solvents in this product can be irritating to the eyes, nose and Effects of acute exposure..... throat. In high concentration, they may cause central nervous system depression and

narcosis characterized by nausea, lightheadedness and dizziness from overexposure by

inhalation.

Effects of chronic exposure..... Prolonged or repeated exposure may lead to allergic skin reactions. Prolonged or repeated exposure may result in an allergic respiratory reaction in sensitive individuals. Prolonged or

repeated exposure may lead to kidney or central nervous system symptoms. This product contains crystalline silica. Excessive long-term exposure to crystalline silica may cause silicosis, a form of disabling, progressive and sometimes fatal fibrotic lung disease. Severe and permanent lung damage may result. Prolonged overexposure to crystalline silica

(quartz) dust can cause fibrotic lung damage.

Sensitizing capability of material..... Prolonged or repeated exposure may result in skin sensitization.

Carcinogenicity of material.....

Styrene is classified by IARC as a Group 2B carcinogen. Quartz (Crystalline Silica) is listed by IARC in Group 1 as a carcinogen. IARC has classified Titanium Dioxide as a group 2B carcinogen. This product contains an abest iform Talco.

(not classifiable as to carcinogenicity to humans) by IARC . Contains N, N-Dimethylacetamide (127-19-5); Suspected of damaging fertility or the

unborn child.

SECTION 12: ECOLOGICAL INFORMATION

Environmental..... Do not allow to enter waters, waste water or soil. Persistence and degradability.....

Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

Information on safe handling for disposal. and methods of disposal, including any contaminated packaging

Reproductive effects.....

Empty containers must be handled with care due to product residue. Do not heat or cut empty containers with electric or gas torch. This material and its container must be disposed of as hazardous waste. Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

TDG Classification..... UN3269 - Polyester Resin Kit - Class 3 - Packing Group III - This product meets the criterial for Limited Quantity Exemptions when packaged in containers less than 5 litres .

UN3269 - Polyester Resin Kit - Class 3 - Packing Group III. UN3269 - Polyester Resin Kit - Class 3 - Packing Group III - EmS: F-E S-D. IATA Classification (Air).....IMDG Classification (Marine).....

Marine Pollutant..... No.

Proof of Classification..... In accordance with Part 2.2.1 of the Transportation of Dangerous Goods Regulations (July 2, 2014) - we certify that classification of this product is correct. .

SECTION 15: REGULATORY INFORMATION

WHMIS 1988 classification..... B2. D2A. D2B.

CEPA status..... A component of this product is not on the NDSL.

TSCA inventory status..... All components are listed.

This product is considered hazardous under the OSHA Hazard Communication Standard. OSHA.....

SARA Title III

Section 302 - extremely hazardous None.

substances

Section 311/312 - hazard categories...... Immediate health, delayed health, fire hazard. Section 313..... Styrene. N,N-dimethylaniline.

Styrene. N,N-Dimethylaniline. EPA hazardous air pollutants (HAPS)

California Proposition 65..... *WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. (N,N-Dimethylacetamide). *WARNING: This product contains a chemical known to the State of California to cause cancer. (Aniline). (Styrene). (Titanium dioxide - airborne, unbound particles of respirable size).

SECTION 16: OTHER INFORMATION

Telephone number:..... (800) 387-7981.

SECTION 16: OTHER INFORMATION

Disclaimer:....

DISCLAIMER: All information appearing herein is based upon data obtained from experience and recognized technical sources. To the best of our knowledge, it is believed to be correct as of the date of issue but we make no representations as to its accuracy or sufficiency and do not suggest or guarantee that any hazards listed herein are the only ones which exist. The hazard information contained herein is offered solely for the consideration of the user, subject to his own investigation and verification of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. The information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

Review Date:.... Date of the latest revision of the safety ... 2022-11-30. 2017-01-19

data sheet



Pro Form Products Ltd. 604 McGeachie Drive Milton, Ontario, L9T 3Y5 Canada 905-878-4990

PRODUCT: **BLUE CREAM HARDENER**

SECTION 01: IDENTIFICATION

Initial supplier identifier..... Pro Form Products Ltd. 604 McGeachie Drive

Milton, Ontario L9T3Y5 Tel (905) 878-4990 Fax (905) 878-1189

BLUE CREAM HARDENER Accelerator and activator.

Product identifier..... Recommended use and restrictions on ...

Chemical family..... NFPA rating..... Health: 2 Fire: 1 Reactivity: 1.

HMIS..... H: 2 F: 1 R: 1.

For transportation emergencies (in Canada) call CANUTEC 1-888-226-8832 (CAN-UTEC); IN THE UNITED STATES CALL CHEMTREC 1-800-424-9300.

** For medical emergencies contact your local poison control centre **. 24 hour emergency number:.....

SECTION 02: HAZARD IDENTIFICATION



Signal Word..... WARNING. Hazard Classification..... Organic Peroxides — Type E. Skin Sensitizer — Category 1. Eye Irritation — Category Hazard Description..... H242 Heating may cause a fire. H317 May cause an allergic skin reaction. H319 Causes serious eve irritation. P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking. P234 Keep only in original packaging. P235 Keep cool. P240 Ground and bond container and Prevention..... receiving equipment. P261 Avoid breathing mists, vapours and sprays. P264 Wash thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves and eye protection.
P370 + P378 In case of fire - use dry chemical powder, CO2 or foam to extinguish. P305 + P351 + P338 If in eyes rinse cautiously with water for several minutes. Remove contact Response lenses, if present and easy to do. Continue rinsing until medical help arrives. P337 + P313 - If eye irritation persists get medical attention. P302 + P352 - If on skin: wash with plenty of water. P362 + P364 - Take off contaminated clothing and wash before reuse. P333 + P313 If skin irritation or rash occurs, get medical advice/attention. P321 - For specific treatment see section 4 on this SDS P403 Store in a well ventilated area. P410 Protect from sunlight. P411 Store at temperatures not exceeding 38°C / 100°F. P420 Store separately. Storage..... P501 Dispose all unused, waste or empty containers in accordance with local regulations. Disposal..... This product mixture has been classified based on its ingredients. Note

SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS			
CHEMICAL NAME AND SYNONYMS	CAS#	WT. %	
Benzoyl peroxide C9-11-branched alkyl benzoate	94-36-0 131298-44-7	50-55 15-20	

SECTION 04: FIRST-AID MEASURES

Eye contact..... In case of contact, immediately flush eyes, keeping eyelids open, with plenty of water for at least 15 minutes. Obtain medical attention.

Immediately remove all contaminated clothing, flush skin with water for at least 15 minutes. Wash clothing before reuse. If irritation persists, seek medical attention. Wash skin with soap and water.



PRODUCT: BLUE CREAM HARDENER

SECTION 04: FIRST-AID MEASURES

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is Inhalation..... difficult, give oxygen, obtain medical attention. Do not induce vomiting. If ingestion is suspected, contact physician or poison control center immediately. If spontaneous vomiting occurs have victim lean forward with head Ingestion..... down to prevent aspiration of fluid into the lungs. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, whether acute or delayed Additional information.....

Can cause skin sensitization. Causes serious eye irritation.

Treat victims symptomatically. The main hazard from ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. In the event of an incident involving this product ensure that medical authorities are provided a copy of this safety data sheet.

SECTION 05: FIRE-FIGHTING MEASURES

Suitable and unsuitable extinguishing Specific hazards arising from the

"Alcohol" foam, CO2, dry chemical. Do not use water in a jet.

Thermal decomposition products are toxic. May include:. Oxides of carbon (CO, CO2). Emits toxic fumes under fire conditions.

hazardous product, such as the nature of any hazardous combustion products Special protective equipment and precautions for fire-fighters

Firefighter should be equipped with self-contained breathing apparatus and full protective clothing to protect against potentially toxic and irritating fumes. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture.

Unusual fire / explosion hazards.....

Vapours may be heavier than air. May travel long distances along the ground before igniting and flashing back to vapour source. This material is an oxidizer and may increase the intensity of any fire and the possibility of an explosion.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Leak/spill.....

Ventilate. Eliminate all sources of ignition. Isolate area and keep unauthorized people away. Do not walk through spilled material. Contain the spill. Prevent runoff into drains, sewers, and other waterways. Absorb with earth, sand, or another dry inert material. Recover spilled material and place in suitable containers for recycling or disposal. Avoid solvent cleaners. Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, provincial, state, and federal regulations.

SECTION 07: HANDLING AND STORAGE

Precautions for safe handling.....

Keep away from heat, sparks, and open flame. Do not breathe vapours, mist or dust. Avoid all skin contact and ventilate adequately, otherwise wear an appropriate breathing apparatus. Handle in accordance with good industrial hygiene and safety practices. Always adopt precautionary measures against build-up of static which may arise from appliances, handling and the containers in which product is packed. Handle and open container with care. Employees should wash hands and face before eating or drinking

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks, and open flames. Keep container closed when not in use. Store away from strong oxidizers. Store away from acids.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	NIOSH REL	
Benzoyl peroxide	5 mg/m3	Not Established	5 mg/m3	Not Established	5 mg/m3 TWA	
C9-11-branched alkyl benzoate	No data					
Respiratory/type		when contaminant leve	Is exceed the reco	d. Wear an appropriate, prommended exposure limits.		
Eye/type			1 0 00			
		 Chemical resistant glove 				
		Wear adequate profective clothes.				
	pe Safety boots per local r					
Other/type		Emergency showers and eye wash stations should be available.				
Appropriate engineering controls Provide natural or mechanical ventilation to cont exposure limits. Local mechanical exhaust ventilation to controls			to control exposure levels t ventilation should be used	below airborne d at sources of air		

PRODUCT: BLUE CREAM HARDENER

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate engineering controls.....

contamination, such as open process equipment, or during purging operations, to capture gases and fumes that may be emitted. Standard reference sources regarding industrial ventilation (ie. ACGIH industrial ventilation) should be consulted for quidance about adequate ventilation.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical state	Paste / solid. Blue/white. No data. Not available. No data. No data. No data. No data. Not applicable. No data. Not available.
---------------------------	--

SECTION 10: STABILITY AND REACTIVITY

Chemical stability..... Stable at normal temperatures and pressures.

Reactivity Hazardous polymerization will not occur. Avoid heat, sparks and flames.

Possibility of hazardous reactions..... Hazardous polymerization will not occur.

Conditions to avoid, including static

discharge, shock or vibration Incompatible materails.....

Hazardous decomposition products.....

Avoid heat, spark, open flames. Strong oxidizing agents. Acids.

No hazardous decomposition products when stored and handled correctly. See

hazardous combustion products section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS LC50 LD50

Benzoyl peroxide >24.3 mg/L (4 hr., vapour) 7710 mg/kg (Rat, Oral)

Not available C9-11-branched alkyl benzoate Not available

Route of exposure..... Eye contact. Skin contact. Ingestion. Inhalation.

Effects of acute exposure..... Causes serious eye irritation. Contact with paste may result in irritation, redness, tearing,

and blurred vision. May cause sensitization by skin contact. May cause skin irritation. Effects of chronic exposure..... Prolonged or repeated skin contact may cause drying or cracking of skin.

Carcinogenicity of material..... This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA.

Reproductive effects..... No data

May cause sensitization by skin contact. Sensitizing capability of material.....

SECTION 12: ECOLOGICAL INFORMATION

Environmental..... Do not allow to enter waters, waste water or soil. This material meets the definition of a

marine pollutant.

Other adverse effects Persistence and degradability..... Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

Information on safe handling for disposal. and methods of disposal, including any contaminated packaging

Empty containers must be handled with care due to product residue. Dispose of as an industrial waste in a manner acceptable to good waste management practice and in accordance with applicable local, provincial/State or federal regulations.



PRODUCT: BLUE CREAM HARDENER

SECTION 14: TRANSPORT INFORMATION

TDG Classification..... UN3108 - ORGANIC PEROXIDE TYPE E, SOLID (Benzoyl peroxide), Class 5.2, PG II. The product meets the Limited Quantity exemption when packaged in containers less than 0.5 kg. UN3108 - ORGANIC PEROXIDE TYPE E, SOLID (Benzoyl peroxide), Class 5.2, PG II. DOT Classification (Road)..... Limited quantity: 0.5 kg (solids). UN3108 - ORGANIC PEROXIDE TYPE E, SOLID (Benzoyl peroxide), Class 5.2, PG II. Do IATA Classification (Air)..... not ship by air without checking appropriate IATA regulations.
UN3108 - ORGANIC PEROXIDE TYPE E, SOLID (Benzoyl peroxide), Class 5.2, PG II. IMDG Classification (Marine)..... EmS-No: F-J, S-R. Check IMDG regulations for limited quantity exemptions. Marine Pollutant..... Proof of Classification..... In accordance with Part 2.2.1 of the Transportation of Dangerous Goods Regulations (July 2, 2014) - we certify that classification of this product is correct. .

SECTION 15: REGULATORY INFORMATION

On Domestic Substances List (DSL). CEPA status.....

TSCA inventory status..... All components are listed.

OSHA..... This product is considered hazardous under the OSHA Hazard Communication Standard.

SARA Title III

Section 302 - extremely hazardous None.

substances

Section 311/312 - hazard categories...... Fire hazard. Reactive. Section 313..... Benzoyl peroxide.

EPA hazardous air pollutants (HAPS) None.

Prepared by:

40CFR63

California Proposition 65..... This product does not contain any chemical(s) known to the State of California to cause cancer or reproductive toxicity. For more information, go to www.P65Warnings.ca.gov.

SECTION 16: OTHER INFORMATION

REGULATORY AFFAIRS. Trivalent Data Systems Ltd. www.trivalent.com.

Telephone number..... Disclaimer:.....

(800) 387-7981.
DISCLAIMER: All information appearing herein is based upon data obtained from experience and recognized technical sources. To the best of our knowledge, it is believed to be correct as of the date of issue but we make no representations as to its accuracy or sufficiency and do not suggest or guarantee that any hazards listed herein are the only ones which exist. The hazard information contained herein is offered solely for the consideration of the user, subject to his own investigation and verification of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. The information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

Review Date:.... 2022-11-30. 2019-10-31

Date of the latest revision of the safety ...

data sheet

Powered by