PLASTIC PROCESS EQUIPMENT, INC.

8303 CORPORATE PARK DRIVE
MACEDONIA, OH 44056
216-367-7000
216-367-7022
WWW.PPE.COM

Conforms to HazCom 2012/United States

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER(S)/ TRADEMARK(S) USED ON THE LABEL: Nickel Flake Anti-Sieze Compound

OTHER MEANS OF IDENTIFICATION: NF-8, NF-16

NSF H-1 REGISTRATION NUMBER: Not available.

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

MANUFACTURER: Plastic Process Equipment, Inc.
8303 Corporate Park Drive
Macedonia, OH 44056 USA
(p) 216-367-7000
(F): 216-367-7022

EMERGENCY PHONE: 800-535-5053 (24HR)

CHEMTREC PHONE: 800-535-5053 (24HR)

SECTION 2: HAZARDS IDENTIFICATION

OSHA/HCS STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE: SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

GHS LABEL ELEMENTS

HAZARD PICTOGRAMS:

SIGNAL WORD: Danger

HAZARD STATEMENTS: May cause an allergic skin reaction.
Causes damage to organs through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS

PREVENTION: Wear protective gloves. Do not breathe dust. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

RESPONSE: Get medical attention if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

SECTION 2: HAZARDS IDENTIFICATION (CONTINUED)

STORAGE:	Not applicable.
DISPOSAL:	Dispose of contents and container in accordance with all local, regional, national and international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE/MIXTURE: Mixture.
OTHER MEANS OF IDENTIFICATION: Not available.

CAS NUMBER/OTHER IDENTIFIERS

CAS NUMBER: Not applicable.
PRODUCT CODE: 10482

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: FIRST AID MEASURES

DESCRIPTION OF NECESSARY FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention following exposure or if feeling unwell.

INHALATION: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

SKIN CONTACT: Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

INGESTION: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious person.
If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

MOST IMPORTANT SYMPTOMS/EFFECTS (ACUTE AND DELAYED)

POTENTIAL ACUTE HEALTH EFFECTS

EYE CONTACT: No known significant effects or critical hazards.
INHALATION: No known significant effects or critical hazards.

SECTION 4: FIRST AID MEASURES (CONTINUED)

SKIN CONTACT: May cause an allergic skin reaction.
INGESTION: No known significant effects or critical hazards.

OVER-EXPOSURE SIGNS/SYMPTOMS

EYE CONTACT: No known significant effects or critical hazards.
INHALATION: No known significant effects or critical hazards.
SKIN CONTACT: Adverse symptoms may include the following:
Irritation
Redness

INGESTION: No known significant effects or critical hazards.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED, IF NECESSARY

NOTES TO PHYSICIAN: Treat symptomatically.

SPECIFIC TREATMENTS: No specific treatment.

PROTECTION OF FIRST-AIDERS: No special protection is required.

See toxicological information (Section 11)

SECTION 5: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA: Use dry chemical, CO_2, water spray (fog) or foam.

UNSUITABLE EXTINGUISHING MEDIA: None known.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: No specific fire or explosion hazard.

HAZARDOUS THERMAL DECOMPOSITION PRODUCTS: Decomposition products may include the following materials:
Carbon dioxide
Carbon monoxide
Metal oxide/oxides

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: No special measures are required.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

FOR NON-EMERGENCY PERSONNEL: Put on appropriate personal protective equipment.

FOR EMERGENCY RESPONDERS: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non- emergency personnel".

ENVIRONMENTAL PRECAUTIONS: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

SMALL SPILL: Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

SECTION 6: ACCIDENTAL RELEASE MEASURES (CONTINUED)

LARGE SPILL: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

PROTECTIVE MEASURES: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

ADVICE ON GENERAL OCCUPATIONAL HYGIENE: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

OCCUPATIONAL EXPOSURE LIMITS

INGREDIENT NAME:	EXPOSURE LIMITS:
Nickel	**ACGIH TLV (United States, 3/2012).** TWA: 1.5 mg/m^3 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 1/2013).** TWA: 0.015 mg/m^3 (as Ni) 10 hours. **OSHA PEL (United States, 6/2010).** TWA: 1 mg/m^3 (as Ni) 8 hours.

APPROPRIATE ENGINEERING CONTROLS: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

ENVIRONMENTAL EXPOSURE CONTROLS: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

INDIVIDUAL PROTECTION MEASURES

HYGIENE MEASURES: Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reuse.

EYE/FACE PROTECTION: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

SKIN PROTECTION

HAND PROTECTION: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

BODY PROTECTION: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

OTHER SKIN PROTECTION: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

RESPIRATORY PROTECTION: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

PHYSICAL STATE: Semi-solid.

COLOR: Silver. [Dark]

ODOR: Petroleum.

ODOR THRESHOLD: Not available.

pH: Not available.

MELTING POINT:	Not available.
BOILING POINT:	Not available.
FLASH POINT:	Open Cup: 218.33°C (425°F) [Cleveland.]
BURNING TIME:	Not available.
BURNING RATE:	Not available.
EVAPORATION RATE:	Not available.
FLAMMABILITY (SOLID, GAS):	Not available.
LOWER AND UPPER EXPLOSIVE (FLAMMABLE) LIMITS:	Not available.
VAPOR PRESSURE:	Not available.
VAPOR DENSITY:	Not available.
RELATIVE DENSITY:	1.18 g/ml
SOLUBILITY:	Insoluble in water.
PARTITION COEFFICIENT: N-OCTANOL/WATER:	Not available.
AUTO-IGNITION TEMPERATURE:	Not available.
DECOMPOSITION TEMPERATURE:	Not available.
SADT:	Not available.
VISCOSITY:	Not available.

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	No specific test data related to reactivity available for this product or its ingredients.
CHEMICAL STABILITY:	The product is stable.
POSSIBILITY OF HAZARDOUS REACTIONS:	Under normal conditions of storage and use, hazardous reactions will not occur.
CONDITIONS TO AVOID:	Do not heat above flash point.
INCOMPATIBLE MATERIALS:	Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
HAZARDOUS DECOMPOSITION PRODUCTS:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY:

PRODUCT/INGREDIENT NAME	RESULT	SPECIES	DOSE	EXPOSURE
Nickel	LD50 Oral	Rat	> 9000 mg/kg	---

IRRITATION/CORROSION:	There is no data available.
SENSITIZATION:	There is no data available.
MUTAGENICITY:	There is no data available.
CARCINOGENICITY:	There is no data available.
REPRODUCTIVE TOXICITY:	There is no data available.
TERATOGENICITY:	There is no data available.
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	There is no data available.
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE):	There is no data available.
ASPIRATION HAZARD:	There is no data available.
INFORMATION ON THE LIKELY ROUTES OF EXPOSURE:	Dermal contact. Eye contact. Inhalation. Ingestion.

POTENTIAL ACUTE HEALTH EFFECTS

EYE CONTACT:	No known significant effects or critical hazards.
INHALATION:	No known significant effects or critical hazards.
SKIN CONTACT:	May cause an allergic skin reaction.
INGESTION:	No known significant effects or critical hazards.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL, AND TOXICOLOGICAL CHARACTERISTICS

EYE CONTACT:	No known significant effects or critical hazards.
INHALATION:	No known significant effects or critical hazards.
SKIN CONTACT:	Adverse symptoms may include the following: Irritation

Redness

INGESTION: No known significant effects or critical hazards.

DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT- AND LONG-TERM EXPOSURE

SHORT-TERM EXPOSURE:

POTENTIAL IMMEDIATE EFFECTS: No known significant effects or critical hazards.

POTENTIAL DELAYED EFFECTS: No known significant effects or critical hazards.

LONG-TERM EXPOSURE:

POTENTIAL IMMEDIATE EFFECTS: No known significant effects or critical hazards.

POTENTIAL DELAYED EFFECTS: No known significant effects or critical hazards.

POTENTIAL CHRONIC HEALTH EFFECTS

GENERAL: Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

CARCINOGENICITY: No known significant effects or critical hazards.

MUTAGENICITY: No known significant effects or critical hazards.

TERATOGENICITY: No known significant effects or critical hazards.

DEVELOPMENTAL EFFECTS: No known significant effects or critical hazards.

FERTILITY EFFECTS: No known significant effects or critical hazards.

NUMERICAL MEASURES OF TOXICITY

ACUTE TOXICITY ESTIMATES

ROUTE:	ATE VALUE
Oral	121538.5 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

TOXICITY

PRODUCT/INGREDIENT NAME	RESULT	SPECIES	EXPOSURE
Nickel	Acute EC50 2 ppm Marine water	Algae - Macrocystis pyrifera - Young	4 days
	Acute EC50 450 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 1000 µg/l Marine water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2.3 ppm Fresh water	Fish - Cyprinus carpio - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 100 mg/L Marine water	Algae - Glenodinium halli	72 hours
	Chronic NOEC 3.5 µg/l Fresh water	Fish - Cyprinus carpio	4 weeks

PERSISTENCE AND DEGRADABILITY: There is no data available.

BIOACCUMULATIVE POTENTIAL: There is no data available.

MOBILITY IN SOIL:

SOIL/WATER PARTITION COEFFICIENT (K_{OC}): Not available.

OTHER ADVERSE EFFECTS: No known significant effects or critical hazards.

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

	DOT CLASSIFICATION	IMDG	IATA
UN NUMBER:	Not regulated.	Not regulated.	Not regulated.
UN PROPER SHIPPING NAME:	---	---	---
TRANSPORT HAZARD CLASS(ES):	---	---	---
PACKING GROUP:	---	---	---
ENVIRONMENTAL HAZARDS:	No.	No.	No.
ADDITIONAL INFORMATION:	---	---	---

AERG: Not applicable.

SPECIAL PRECAUTIONS FOR USER: **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE: Not available.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA 8(a) CDR EXEMPT/PARTIAL EXEMPTION: Not determined.
UNITED STATES INVENTORY (TSCA 8b): All components are listed or exempted.
CLEAN WATER ACT (CWA) 307: Nickel
CLEAN AIR ACT SECTION 112(b) HAZARDOUS AIR POLLUTANTS (HAPs): Listed.
CLEAN AIR ACT SECTION 602 CLASS I SUBSTANCES: Not listed.
CLEAN AIR ACT SECTION 602 CLASS II SUBSTANCES: Not listed.
DEA LIST I CHEMICALS (PRECURSOR CHEMICALS): Not listed.
DEA LIST II CHEMICALS (ESSENTIAL CHEMICALS): Not listed.

SARA 302/304

COMPOSITION/INFORMATION ON INGREDIENTS: No products were found.
SARA 304 RQ: Not applicable.

SARA 311/312

CLASSIFICATION: Immediate (acute) health hazard.
Delayed (chronic) health hazard.

COMPOSITION/INFORMATION ON INGREDIENTS:

NAME	%	FIRE HAZARD	SUDDEN RELEASE OF PRESSURE	REACTIVE	IMMEDIATE (ACUTE) HEALTH HAZARD	DELAYED (CHRONIC) HEALTH HAZARD
Nickel	10 – 30	No.	No.	No.	Yes.	Yes.

SARA 313

	PRODUCT NAME:	CAS NUMBER:	%
FORM R – REPORTING REQUIREMENTS:	Nickel Aluminum	7440-02-0 7429-90-5	10 – 30 1 – 5
SUPPLIER NOTIFICATION:	Nickel Aluminum	7440-02-0 7429-90-5	10 – 30 1 – 5

SARA 313 notifications must not be detached from the SDS; and, any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

STATE REGULATIONS

MASSACHUSETTS: The following components are listed:
Graphite, natural
Nickel
Aluminum

NEW YORK: The following components are listed:
Nickel

NEW JERSEY: The following components are listed:
Graphite, natural
Nickel
Aluminum

PENNSYLVANIA: The following components are listed:
Graphite, natural
Nickel
Aluminum

CALIFORNIA PROP. 65 **WARNING:** This product contains a chemical known to the State of California to cause cancer.

INGREDIENT NAME	CANCER	REPRODUCTIVE	NO SIGNIFICANT RISK LEVEL	MAXIMUM ACCEPTABLE DOSAGE LEVEL
Nickel	Yes.	No.	No.	No.

SECTION 15: REGULATORY INFORMATION (CONTINUED)

INTERNATIONAL REGULATIONS

INTERNATIONAL LISTS: **Australia inventory (AICS):** All components listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

CHEMICAL WEAPONS CONVENTION LIST SCHEDULE I CHEMICALS: Not listed.

CHEMICAL WEAPONS CONVENTION LIST SCHEDULE II CHEMICALS: Not listed.

CHEMICAL WEAPONS CONVENTION LIST SCHEDULE III CHEMICALS: Not listed.

SECTION 16: OTHER INFORMATION

HAZARDOUS MATERIAL INFORMATION SYSTEM (U.S.A.)

Health: 0 **Flammability: 1** **Physical Hazards: 0**

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)

Health: 0 **Flammability: 1** **Instability: 0**

Caution: HMIS® and NFPA ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks.
The customer is responsible for determining the PPE code for this material.

HISTORY

DATE ISSUE (MM/DD/YYYY): 01/01/2014
VERSION: 1
REVISED SECTION(S): Not applicable.

KEY TO ABBREVIATIONS:
ATE = Acute Toxicity Estimate
BCF = Bio-concentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Code
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

NOTICE TO THE READER:
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.