



PARAGON™ PLIER SST 420

1 – IDENTIFICATION

PRODUCT NAME: PARAGON Pliers

CHEMICAL FAMILY: Steel

FORMULA: Iron Base Alloy

COMPANY NAME:

Orthodontic Design and Production
1370 Decision Street, Suite D
Vista, CA 92081 (760) 734-3995

2 – HAZARDOUS INGREDIENTS

		TLV Mg/M3	PEL Mg/m3
*IRON:	<84.60%	5	10
	(1309-37-1)		
	* Substance regulated in Oxide form		
CHROMIUM:	<13.5%	0.5	0.5
	(7440-47-3)		
NICKEL:	<30.0%	1	1
	(7440-02-0)		
MANGANESE:	<0.4%	0.2	5 C
	(7439-96-5)		
MOLYBDENUM:	<0.3%	10	15
	(7439-98-7)		
COPPER:	<0.1%	1	1
	(7440-50-8)		

The above percentage concentrations are presented for industrial hygiene purposes. They do not represent a certification of content.

3 – HEALTH HAZARD DATA

HEALTH HAZARD OVERVIEW: Specialty steel alloys are generally not considered hazardous in the form shipped (solid bar, wire, strip, or billets). However, if your process involves grinding, melting, welding, cutting, or any other process that causes release or dust or fume, hazardous levels of dust or fumes of the constituents of these alloys could be generated. The following is a list of potential health effects for the hazardous elements that may be contained in any of the alloys. Please refer to the hazardous ingredients preceding for a list of those specific elements contained in the particular alloy. It is the users responsibility to assess potential exposures based on their processing of the product. Additionally, protective coatings may have been applied to the steel at the request of the customer. The coating would represent less than 0.5% of the total material present. Material safety data sheets are available for these coating products at your request.

MATERIAL SAFETY DATA SHEET

GENERAL: Welding fume, fumes freshly generated by the welding of zinc, magnesium and copper, are known to cause metal fume fever. Symptoms are flu-like including: shortness of breath, coughing, muscle pain, fever and chills. Generally, symptoms resolve with rest in a few days.

EXPOSURE ROUTES

INHALATION Primary route of exposure, steel dusts and fume may cause irritation to the respiratory tract. Chronic exposure may aggravate pre-existing conditions.

SKIN AND EYE CONTACT May cause irritations or skin sensitivity

INGESTION Certain constituents may be harmful if swallowed

SPECIFIC HEALTH ELEMENTS

ALUMINUM Metal dust and oxide is generally considered a nuisance particulate. May irritate the eyes and mucous membranes. Excessive concentrations have been known to cause fibrosis

BORON OXIDE An eye and respiratory irritant, may cause: eye irritation, dryness of mouth, nose and throat or a productive cough.

CHROMIUM The toxicity of chromium is dependent on its oxidation state. Chromium metal is relatively non-toxic. If metal is heated to high temperatures, as in welding, fumes produced may be toxic to the lungs. Under high temperatures, hexavalent chromium may be produced, if in the insoluble form it is designated a confirmed human carcinogen. Other health effects include nasal irritation and possible kidney and liver damage. Chromite dust may also cause skin ulceration, dermatitis, and allergic skin reactions.

COBALT May cause interstitial fibrosis, pneumonitis, and sensitization of the respiratory tract and skin. Cobalt liberation during tungsten carbide machining is associated with the development of hypersensitivity asthma. Hypersensitivity pneumonitis generally disappears when the exposure ceases. Cobalt is listed by the National Toxicological Program (NTP) as a 2B carcinogen, anticipated to be carcinogenic from studies in experimental animals.

COLUMBIUM (NIOBIUM) Eye or skin irritant, may cause kidney damage

COPPER May irritate the upper respiratory tract, may include a metallic or sweet taste. May also cause metal fume fever.

IRON OXIDE Repeated inhalation of iron oxide fume or dust causes benign pneumoconiosis (siderosis), but generally does not cause symptoms in the exposed person.

MANGANESE Acute effects include skin and eye irritation and metal fume fever. Chronic exposure may lead to central nervous system symptoms of headache, changes in motor activity and psychological disturbances.

Note: This MSDS was prepared in accordance with the requirements of the OSHA Haard Communication Standard (29 CFR 1910.1200) and is to be used only for this product. The information contained in this MSDS is, to the best of our knowledge, believed to be accurate.
CONTACT CHEMTREC (800) 424-3900 IN CASE OF EMERGENCY



PARAGON™ PLIER SST 420

NICKEL Known to cause contact dermatitis and a respiratory irritant. Nickel refining and specific compounds are considered respiratory carcinogens to humans. The International Agency for Research on Cancer lists elemental nickel 2B, possibly carcinogenic to humans. The National Toxicological Program (NTP) lists nickel as reasonably anticipated to be carcinogenic from studies in experimental animals. The American Conference on Governmental Industrial Hygienists recommends that nickel compounds be differentiated according to solubility for their carcinogenic effects.

SELENIUM Selenium dust vapors and fumes are irritants of the eyes, mucous membranes, and skin. Chronic exposure may cause central nervous system effects and gastrointestinal disturbances. Selenium is listed by the National Toxicological Program (NTP) as a 2B, anticipated to be carcinogenic from studies in experimental animals.

TANTALUM Considered to have a low order of toxicity. As surgical implant material, it has demonstrated its physiological inertness.

TITANIUM A mild pulmonary irritant generally regarded as a nuisance dust.

TUNGSTEN Both tungsten and tungsten carbide pose an extremely low order of toxicity. Tungsten is considered an inert dust.

VANADIUM The oxides of vanadium are toxic. May cause irritation to eyes and respiratory tract. May cause bronchitis with wheezing and chest pain. A sensitizer, with repeated exposure, may cause more severe respiratory symptoms.

ZIRCONIUM Considered to have a low order of toxicity. Skin rash has been associated with exposure to deodorants containing zirconium.

4 – PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: n/a

VAPOR PRESSURE: n/a

VAPOR DENSITY: n/a (Air=1.00)

SOLUBILITY IN WATER: Insoluble

PHYSICAL FORM: Solid

COLOR: Grey

ODOR: no odor

SPECIFIC GRAVITY (H2O=1.00): 7.5-8.5

% VOLATILE BY VOLUME: n/a

MELTING POINT: approximately 2,700 degrees Fahrenheit

EVAPORATION RATE: n/a

pH: n/a

VISCOSITY: n/a

FREEZING POINT: n/a

MATERIAL SAFETY DATA SHEET

5 – FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: n/a

FLAMMABLE LIMITS: n/a

AUTO IGNITION TEMPERATURE: n/a

MELTING POINT 2400-2800 degrees Fahrenheit

GENERAL HAZARD: In the form shipped, these specialty metals are not combustible. Note: Special care may be required for fire fighting the metal, if reduced to particulates (dust).

FIRE FIGHTING INSTRUCTIONS:

No special equipment for product as shipped

FIRE FIGHTING EQUIPMENT:

No special equipment for product as shipped

HAZARDOUS COMBUSTION PRODUCTS:

In the form shipped, hazardous decomposition products are not expected.

6 – REACTIVITY DATA

GENERAL: As shipped, this product is stable and hazardous polymerization will not occur

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Acids, bases, and oxidizers.

HAZARDOUS DECOMPOSITIONS: none for this product as shipped

7 – EMERGENCY/FIRST AID MEASURES

As shipped, steel is an article. The likelihood for hazardous consequences through eye or skin contact, inhalation or ingestion would be considered minimal.

INHALATION Remove from exposure. If breathing difficulty occurs, get prompt medical attention

SKIN/EYE CONTACT Flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek medical attention. Wash skin with soap and water to remove metallic particles. If a rash develops, seek medical attention.

INGESTION Seek medical attention

Note: This MSDS was prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and is to be used only for this product. The information contained in this MSDS is, to the best of our knowledge, believed to be accurate.
CONTACT CHEMTREC (800) 424-3900 IN CASE OF EMERGENCY



PARAGON™ PLIER SST 420

8 – HANDLING AND STORAGE

STORAGE TEMPERATURE: n/a

STORAGE PRESSURE: n/a

GENERAL: Store material away from acids and oxidizers

SHIPPING/TRANSPORT INFORMATION:

FOR HAZARDOUS WASTES: DOT (Dept of Transportation)

PROPER SHIPPING NAME: Hazardous waste solid, n.o.s. (Component A, Component B)

HAZARD CLASS: 9

PACKING GROUP: III

IDENTIFICATION NUMBER: NA3077

EMERGENCY RESPONSE GUIDE NUMBER: 171

9 – SPECIAL PROTECTION

VENTILATION: The use of local exhaust ventilation is recommended to control emissions near the source of where the metal is being altered (i.e. welding, grinding, etc)

EYE PROTECTION and PROTECTIVE CLOTHING: Wear appropriate personal protective equipment based on operations performed, such as safety glass with side shields, when grinding or sawing the product. When handling the product, leather gloves are recommended. If industrial hygiene monitoring reveals an overexposure during the processing of the product, engineering controls are required to be installed to reduce exposures below OSHH permissible exposure limits. In the absence of feasible engineering controls, wear a NIOSH approved respirator for protection for the type of particulate generated.

10 – SPILL OR LEAK PROCEDURES

LAND/WATER SPILL: As shipped this product does not pose a hazard to the environment

11 – DISPOSAL INFORMATION

GENERAL Recycling of all metallic byproducts as scrap is strongly encouraged. If byproducts need to be treated and/or disposed of as wastes, hazardous waste characterizations must be performed prior to treating and/or disposing. Contact appropriate parties to ensure compliance with all federal, state, and local rules and regulations related to waste treatment and disposal.

MATERIAL SAFETY DATA SHEET

12 – REGULATORY INFORMATION

TSCA (Toxic Substances Control Act): n/a

CERCLA

(Comprehensive Response Compensation and Liability Act): n/a

SARA TITLE III (Superfund Amendments and Reauthorization Act):

311/312 HAZARDOUS CATEGORIES: Not applicable for storage of item as shipped; however if process, user end product may require reporting.

313 REPORTABLE INGREDIENTS:

Product ingredients subject to reporting requirements may include: chromium, nickel, manganese, cobalt, and copper.

CARCINOGENICITY (OSHA, HAZARD COMMUNICATION):

NTP (National Toxicology Program): n/a

IARC (International Agency for Research on Cancer): n/a

*Regulations such as Clean Air Act, Clean Water Act, and Resource Conservation & Recovery Act may apply to the handling of steel grindings and particulates from processing.

COMPONENT	CAS#:
Nickel	7440-02-0
Cobalt	7440-48-4

Note: Dependent on customer's end use, components may be liberated that may be carcinogenic (refer to Section 3)

13 – DISCLAIMER OF WARRANTIES

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy of completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for his or her particular purpose(s).