J&B PART NUMBER

59106

Safety Data Sheet

Bestwelds NDT Nuclear Developer

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1 Product Identifier

Trade Name	Bestwelds NDT Nuclear Developer, Anchor NDT Nuclear Developer, Eagle NDT Nuclear Developer
Product Number	905-NDT-DEV-NUC-AER, ORS-NDT-DNU-1, ORS-NDT-DNU-9

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use:	Welding Inspection Aid

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer:	Weld-Aid Products 14650 Dequindre Detroit , Michigan
Information Phone Number:	+1 (313) 883-6977 +1 (313) 883-4930
E-mail	info@weldaid.com

1.4 Emergency Telephone Number

Emergency Spill Information	+1 (800) 255-3924

SDS Date of Preparation: March 3, 2015

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

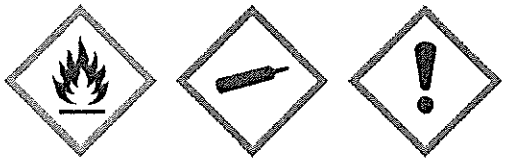
CLP/GHS Classification (1272/2008):

Physical:	Health:	Environmental
Flammable Aerosol Category 1 H222 Gas Under Pressure – Compressed Gas H280	Eye Irritation Category 2A H319 Specific Target Organ Toxicity Single Exposure Category 3 (Nervous System) H335	Not hazardous

EU Classification (67/548/EEC): Extremely Flammable (F+), Irritant (Xi) R12, R36, R67

2.2 Label Elements

DANGER!



Hazard Phrases

H222 Extremely flammable aerosol.
H229 Pressurized container: may burst if heated.
H280 Contains gas under pressure; may explode if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary Phrases

P210 Keep away from heat, sparks, open flames or hot surfaces. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P261 Avoid breathing mist, vapors or spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical attention.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER or doctor if you feel unwell.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 120 F.
P501 Dispose of contents and container in accordance with local and national regulations.

2.3 Other Hazards: None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture:

Chemical Name	CAS# /	EINECS#	EU Classification (67/548/EEC)	GHS Classification Regulation (EC) No 1272/2008	%
Methyl Ethyl Ketone (MEK, 2-butanone)	78-93-3	265-150-3	F, Xi R11, R36, R67	Flammable Liquid Category 2 H225 Eye Irritation Category 2A H319 Specific Target Organ Toxicity Single Exposure Category 3 H336	70-80
Propane/Isobutane/n-Butane Propellant	68476-86-8	270-705-8	F+ R12	Flammable Gas Category 1 (H220) Gases Under Pressure – Liquefied Gas (H280)	20-30
Zinc Stearate	67762-34-9	267-012-8	R50	Aquatic Acute Category 1 H400	1-<10

See Section 16 for further information on EU and GHS Classification.

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

Eyes: Flush eyes immediately with water for at least 15 minutes, holding the eyelids apart. If irritation persists, get medical attention.
Skin: Remove contaminated clothing and shoes. Wash exposed area thoroughly with soap and water. Wash contaminated clothing before reuse. Get medical attention if irritation develops or persists.
Inhalation: Remove to fresh air. If breathing is difficult or symptoms develop, get medical attention.
Ingestion: Ingestion is an unlikely route of exposure for aerosol products. If ingestion occurs rinse mouth with a small amount of water. Never give anything by mouth to an unconscious or drowsy person. Get medical attention.
Notes to Physicians: Treat symptomatically.

4.2 Most Important symptoms and effects, both acute and delayed: Causes eye irritation. Prolonged skin contact may cause skin irritation and drying of the skin. Inhalation of vapors or mists may cause mucous membrane and respiratory irritation and central nervous system depression.

4.3 Indication of any immediate medical attention and special treatment needed: Immediate medical attention is not required under normal conditions of use.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing Media:

Use water spray, carbon dioxide, dry chemical or foam to extinguish fire. Cool fire exposed containers with water.

5.2 Special Hazards Arising from the Substance or Mixture

Unusual Fire and Explosion Hazards: Contents under pressure. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may and accumulate in low lying area.
Hazardous Decomposition Products: Combustion may produce carbon monoxide and carbon dioxide.

5.3 Advice for Fire-Fighters:

Firefighters should always wear self-contained breathing apparatus and full protective clothing for fires involving chemicals or in confined spaces. Use shielding to protect against bursting containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:
Evacuate spill area and keep unprotected personnel away. Eliminate all ignition sources. Ventilate area. Wear appropriate protective clothing as described in Section 8.

6.2 Environmental Precautions:
Avoid release to the environment. Report releases as required by local, state and federal authorities.

6.3 Methods and Material for Containment and Cleaning Up:
Contain and collect using an absorbent material and place in an appropriate container for disposal. Leaking cans should be placed in a plastic bag or open pail in a well-ventilated area until the pressure has dissipated.

6.4 Reference to Other Sections:
Refer to Section 8 for protective equipment and Section 15 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling:
Avoid contact with the eyes. Avoid prolonged and repeated contact with skin. Avoid breathing vapors and mists. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Do not use in poorly ventilated or confined spaces. Vapors are heavier than air and will collect in low areas. Wash thoroughly with soap and water after handling. Contents under pressure. Do not puncture or incinerate container.

Do not cut, drill, grind or weld on or near containers, even empty containers. Follow all SDS precautions when handling empty containers.

7.2 Conditions for Safe Storage, Including any Incompatibilities
Store in a cool, dry, well ventilated area away from ignition sources. Do not store above 50°C (120°F). Keep away from heat, sparks and open flames. Store away from direct sunlight.

7.3 Specific end use(s): Welding Inspection Aid

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Chemical Name	Exposure Limits
Methyl Ethyl Ketone	200 ppm TWA OSHA PEL 200 ppm TWA, 300 ppm STEL ACGIH TLV
Propane	1000 ppm TWA OSHA PEL
Isobutane	1000 ppm STEL ACGIH TLV
n-Butane	1000 ppm STEL ACGIH TLV

8.2 Exposure Controls:
Engineering Controls: Use with adequate local exhaust ventilation to maintain exposures below the occupational exposure limits. Use explosion proof equipment where required.
Respiratory Protection: None needed under normal conditions of use, For operations where the occupational exposure limits are exceeded an approved organic vapor respirator or self-contained breathing apparatus should be used. Selection and use of respiratory equipment must be in accordance with applicable regulations and good industrial hygiene practice.
Skin Protection: None required for normal use. Wear impervious gloves such as butyl rubber for prolonged or repeated skin contact.
Eye Protection: Chemical safety goggles should be worn if contact is possible.
Other: Protective clothing if needed to avoid prolonged or repeated skin contact. Eye flushing facilities should be available in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 **Information on basic Physical and Chemical Properties:**

Appearance: Opaque white liquid	**Vapor Density:** 2.41 (MEK)
Odor: Solvent odor.	**Relative Density:** 0.77
Odor Threshold: 0.27 ppm (MEK)	**Water Solubility:** Appreciable (MEK)
pH: Not available	**Octanol/Water Partition Coefficient:** Not available
Melting Point/Freezing Point: Not available	**Autoignition Temperature:** 759°F (404°C) (MEK)
Boiling Point: 175.3°F (79.59°C) (MEK)	**Decomposition Temperature:** Not applicable
Flash Point: <-141°F (-96.4.7°C) (Propellant)	**Viscosity:** Not available
Evaporation Rate: Not available	**Explosion Properties:** Vapors may be explosive in confined areas.
Flammability: Not applicable	**Oxidizing Properties:** No data available
Flammable Limits: LEL: 1.4 (MEK) UEL: 11.4 (MEK)	**Vapor Pressure:** 90.6 mmHg @ 25°C (MEK)

9.2 **Other Information:**

VOC Content: 92.25%	

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:
Not reactive under normal conditions of use.

10.2 Chemical Stability:
Stable under normal storage and handling conditions.

10.3 Possibility of Hazardous Reactions:
None known.

10.4 Conditions to Avoid:
Keep away from heat, sparks and open flames. Do not store in direct sunlight.

10.5 Incompatible Materials:
Avoid oxidizing agents and bases.

10.6 Hazardous Decomposition Products:
Carbon monoxide and carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Eyes: Vapors or mists may cause irritation with redness, tearing and pain.
Skin: Prolonged skin contact may cause irritation and drying of the skin.
Ingestion: Not a normal route for exposure in aerosol products. Ingestion of the liquid may cause gastrointestinal irritation, nausea, vomiting or diarrhea. Methyl ethyl ketone may be an aspiration hazard. May enter the lungs during swallowing and vomiting and cause damage.
Inhalation: Inhalation of vapors or mists may cause mucous membrane and respiratory irritation. Overexposure may cause headache, dizziness, drowsiness, incoordination, confusion, stupor and central nervous system depression. .
Chronic Effects: None known.

Acute Toxicity Values:
Methyl Ethyl Ketone: Oral rat LD50 2328 mg/kg; Dermal rabbit 8200 mg/kg;
Propellant: Inhalation rat LC50 31 mg/L/4 hr (structurally similar chemical)
Zinc Stearate: Oral rat LD50 5000 mg/kg, Inhalation rat LC50 5.93 mg/L/4 hr, Dermal rabbit LD50 6800 mg/kg

Irritation: Methyl ethyl ketone has been shown to cause irritation to rabbit eyes. Methyl ethyl ketone is not irritating to rabbit skin.

Corrosivity: This is not a corrosive product.

Sensitization: Methyl ethyl ketone was not sensitizing in a Buehler test with guinea pigs.

Repeat Dose Toxicity: A 90-day inhalation study in rats at 0, 1250, 2500, or 5000 ppm MEK vapor for 6 hr/day, 5 days/week, resulted in no adverse effect. NOAEL 5000 ppm.

Carcinogen Status: None of the components are listed as carcinogens by IARC, NTP, ACGIH, OSHA or the CLP Regulation (EC) No 1272/2008.

Germ Cell Mutagenicity: Propellant is considered non-mutagenic based on test results of structurally similar chemicals. Methyl Ethyl Ketone was negative in the AMES test, in an in vitro mammalian cell gene mutation assay, and in an in vivo chromosome aberration assay.

Toxicity for Reproduction: In a 13 week reproductive study, rats were exposed to 100-10000 ppm of propellant. No treatment related effects were seen. NOAEC 10000 ppm for male and female reproductive toxicity. A two-generation reproductive toxicity study, rats were administered MEK at concentrations of 0.3, 1.0, and 3.0% in drinking water. Toxicity was observed in the first generation parent rats at 3.0%. The second generation was treated with 0.3, 1.0 and 2.0% in their drinking water. No toxicity was observed at 0.3 and 1.0%. At 2.0%, there was a light but not statistically significant depression in growth of weanling rats and a series of mild changes in the rat kidney which, while not suggestive of overt toxicity, appeared to represent responses to stress. NOEAL 1500 mg/kg. Several studies indicate that methyl ethyl ketone produces a low level of developmental delay at maternally toxic levels but is not selectively teratogenic in laboratory animals.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:

Methyl Ethyl Ketone: 96 hr LC50 Pimephales promelas 2993 mg/L; 48 hr EC50 daphnia magna 308 mg/L, 72 hr EC50 Pseudokirchnerella subcapitata 2029 mg/L
Propellant: 96 hr LC50 fish 147.54 mg/L (QSAR study), 48 hr daphnia 16.33 mg/L (QSAR study); 96 hr EC50 green algae 11.89 mg/L (QSAR study)
Zinc Stearate: 96 hr LC50 Oncorhynchus mykiss 0.98 mg/L (QSAR study), 48 hr EC50 daphnia magna 0.76 mg/L (QSAR study), 72 hr EC50 Pseudokirchnerella subcapitata 0.99 mg/L (QSAR study)

12.2 Persistence and Degradability:

Methyl Ethyl Ketone is readily biodegradable. Propellant is expected to partition to the atmosphere.

12.3 Bioaccumulative Potential:

Methyl Ethyl Ketone has a calculated BCF of 3 which suggests the potential for bioconcentration in aquatic organisms is low.

12.4 Mobility in Soil:

Methyl Ethyl Ketone is highly mobile in soil.

12.5 Results of PBT and vPvB Assessment:

Not required.

12.6 Other Adverse Effects:

None known

SECTION 13: DISPOSAL INFORMATION

13.1 Waste Treatment Methods

Dispose in accordance with local and national environmental regulations.

SECTION 14: TRANSPORT INFORMATION

	41.1 UN Number	41.2 UN Proper Shipping Name	14.3 Transport Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT	UN1950	Aerosols	2.1	Not applicable	No
EU ADR/RID	UN1950	Aerosols	2.1	Not applicable	No
IMDG	UN1950	Aerosols	2.1	Not applicable	No

14.6 **Special Precautions for User:**
None

14.7 **Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:**
Not applicable – product is transported only in packaged form.

SECTION 15: REGULATORY INFORMATION

15.1 **Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:**

International Inventories:
US EPA TSCA Inventory: All of the components are listed on the TSCA inventory.
Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List.
European Union: All of the components of this product are listed on the European Inventory of New and Existing Chemical Substances (EINECS) inventory.
Australia: All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances (AICS).
China: All of the ingredients of this product are listed on the Inventory of Existing Chemical Substance in China (IECSC).
Korea: All of the components of this product are listed on the Korean Existing Chemical List (KECL).
Philippines: All of the components of this product are listed on the Philippine Inventory of Chemicals and Chemical Substances (PICCS).

U.S. REGULATIONS
CERCLA: This product has a Reportable Quantity (RQ) of 6,250 lbs. based on the RQ for methyl ethyl ketone of 5,000 lbs. Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

EPA SARA 302: This product does not contain chemicals regulated under SARA Section 302.
EPA SARA 311 Hazard Classification: Acute Health, Fire Hazard, Sudden Release of Pressure
EPA SARA 313: This product contains the following chemicals that are regulated under SARA Title III, section 313:

Zinc Compounds (Zinc Stearate)	67762-34-9	1-<10%

California Proposition 65: This product contains the following chemicals which are known to the State of California to cause cancer, reproductive toxicity or birth defects: None

INTERNATIONAL REGULATIONS

WHMIS Classification: Class A (Compressed Gas), Class B5 (Flammable Aerosol), Class D Division 2 Subdivision B (Toxic material causing other toxic effects)
This product has been classified in accordance with the hazard criteria in the CPR and the SDS contains all the information required by the CPR.

15.2 **Chemical Safety Assessment:**
Not required

SECTION 16: OTHER INFORMATION

SDS Revision History:
3/3/15: New SDS

GHS Phrases for Reference (See Section 2 and 3):
H220 Extremely flammable gas
H225 Flammable liquid and vapor.
H280 Contains gas under pressure; may explode if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):
F+ Extremely Flammable
F Flammable
Xi Irritant
R11 Flammable
R12 Extremely flammable
R36 Irritating to eyes.
R67 Vapors may cause drowsiness and dizziness.
